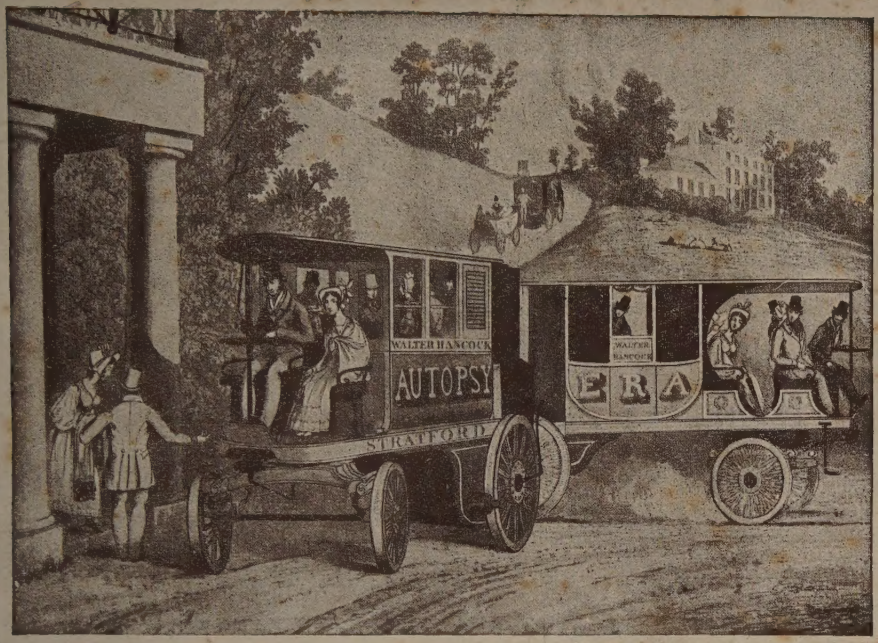


THE STORY OF THE ROADS

By

CYRIL HUGHES HARTMANN, M.A., B.LITT.

Author of "La Belle Stuart," "The Vagabond Duchess," etc.

With an Introduction by

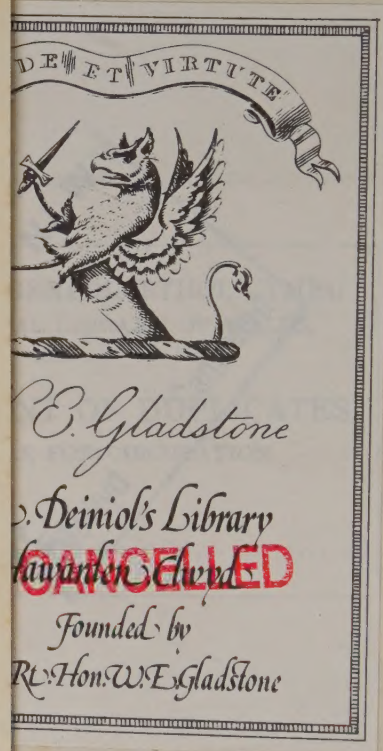
LIEUT.-COL. ALFRED HACKING, D.S.O., M.C.

WITH TWELVE PLATES

For descriptive note see flap

The Story of the Roads

The history of the roads is not only a romance of transport, but involves a record of the growth of civilization. In this book the author sheds many curious sidelights on the social and political conditions of the successive periods with which he treats. Starting with primitive roads and the Roman highways, he passes to the Middle Ages and the era of the Tudors and Stuarts, then to the eighteenth century and the turnpike system, then to the age of Telford and Macadam. The later chapters deal with the decay of the roads after the introduction of railways and their renascence with the advent of the motor vehicle. The book appears at an opportune moment, when with the vast progress of motor tranportation the road-problem has assumed such proportions that there is no one who has not a personal interest in its speedy and effective solution.



THE STORY OF THE ROADS

AN EARLY STEAM-DRIVEN CARRIAGE.

The Story of the Roads

BY

CYRIL HUGHES HARTMANN

M.A., B.LITT.

With an Introduction by

LIEUT.-COL. ALFRED HACKING

D.S.O., M.C.

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TO

MAUDE HACKING

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AUTHOR'S NOTE

My intention in writing this book has been to provide for any who may be interested in the subject a brief, but, I trust, fairly comprehensive survey of the history of roads and road administration from the earliest times until the present day. Since the book is not in the nature of a technical treatise I have not thought fit to encumber the pages with references to the diverse sources from which I have drawn my information. It would, however, be both ungrateful and ungracious on my part if I did not record some of my more important obligations, as, for instance, to Sidney and Beatrice Webb's learned and exhaustive work, *The King's Highway*, and to Dorothy Ballen's *Bibliography of Road-making and Roads in the United Kingdom*, which have been, as it were, my guide-book and map throughout this voyage. Upon various sections of the way I enlisted the aid of other experienced guides: for mediæval times, Jusserand's *English Wayfaring Life in the Middle Ages;* for the Tudor and Stuart periods, Brewer's *Letters and Papers of the Reign of Henry VIII*, and *The Calendars of State Papers Domestic*, and *Treasury Papers;* for the eighteenth century, Sydney's *England and the Eng-*

lish in the Eighteenth Century ; for the age of Telford and Macadam, Smiles's *Lives of the Engineers*, and Parnell's *A Treatise on Roads.* Most of my material for the chapters dealing with more modern times was derived from Mr and Mrs Webb's book already mentioned, Lieut.-Col. Hacking's pamphlet *Some Financial and Political Aspects of Highway Development*, and the columns of *The Times. The Times British Motor Number* of 5th April 1927 was especially helpful.

I have had so much kind assistance from the representatives of various organizations, committees, and societies connected with the motor industry that I feel that it is only due to them to state publicly that my opinions are entirely my own and to apologize for them. For what must seem to them my very regrettable point of view about the Road Fund I can offer them no excuse save that I do not own a motor-car, but that I do have to pay income-tax—and consider it quite high enough already.

CYRIL HUGHES HARTMANN.

INTRODUCTION

BY

LIEUT.-COL. ALFRED HACKING, D.S.O., M.C.

The romance of the road is indeed a romance of English history—and it is truly fitting that the author should have painted in these pages a picture of an aspect of national life which at one time may have been the cause of, and at another the effect of, vast political and economic changes.

Transportation, it is said, is civilization. The history of the road is not only a romance of transport, but involves a record of the growth of civilization.

It is opportune, at a time when a new era of the road is commencing, that the author should have collected for the present and future generations a perspective of the data over many centuries, which may point a moral and adorn the tale of one aspect of the commercial and political life of the country. The lessons of the past, the true principles of development which may have been maintained over the ages, the mistakes of any particular period which events may have shown to be but a passing phase in evolution, are all of value to the student who may

study an engrossing subject, and of no little interest and advantage to the politician, whose thoughts may turn to the evolution in the future of one side at least of Parliamentary influence over road development in national interest.

In casting one's thoughts to the future, there are signs evident enough to-day that the area of local road administration has become too narrow for the commercial requirements of the country. Already we see in London a Traffic Advisory Committee set up by Parliament to disentangle a knot of road traffic difficulties, which now, as in the past, threatened to make street movement impossible. The Commission on London Bridges, the various Committees appointed to consider the movement of passengers by rail, omnibus, or tube, are all at one in the view that no substantial progress can be made to meet the requirements of the next generation until a yet wider authority than the London County Council is set up to deal with the vast problems of road and bridge construction throughout an area twenty-five miles from Charing Cross.

In the country, similarly, County Councils are slowly but surely taking over the road powers of the smaller Authorities. Joint Committees are being set up of adjoining Authorities, not only for Town and Regional Planning, but for the due control of the rapidly-growing network of motor-omnibus services.

Local Government, always jealous of its independence, is being compelled by force of hard economic facts to the realization that the road systems are becoming a responsibility of enlarged units, if not in certain cases of the community as a whole. Rural areas legitimately complain that the burden of finding a permanent way for motor traffic in which they may not themselves derive a benefit is one which should be shared by the urban districts whose ratable value is directly influenced by the improved communications.

No reader of Mr Hartmann's book can fail to realize that in relation to roads, as in other respects, distance and communication are not a question of miles, but of time. A month's journey to Australia, during which these notes were penned, was but a century ago a six months' trip, fraught with every trial and danger imaginable. Who is to prophesy, after the recent achievements of Sir Alan Cobham and other flying pioneers, that within the next twenty-five years the trip I am now taking may not be done in a half or quarter of the present time? And who can foretell what national and imperial advantages may be derived from this tangible and material tightening of the bonds of sympathy and sentiment which bind the Empire?

History repeats itself. Failure of local administration to meet the requirements of commerce led to the inception of the Turnpike Trusts. The rooted

dislike of the community to any interference with the freedom of the King's Highway was at least one of the reasons for the return of control to Local Government. In recent times the inability of highway authorities to reconstruct the roads to modern traffic led to the acceptance of a principle—necessary doubtless for the moment, but vicious to the general scope of taxation—of earmarking the proceeds of motor taxation to road purposes.

Already we find a Chancellor of the Exchequer invoking the aid of the illusory balances standing to the credit of the Road Fund to balance his Budget. It must surely only be a matter of time when the Imperial Exchequer will claim the proceeds of the motor taxes, and Highway Authorities will, as in 1888, be compelled to obtain from Parliament definite financial grants to enable them to carry out their statutory duties, whether Poor Law, Education, Police, or as Administrators of the Roads. We are indeed ever in an age of evolution.

Parliament has always jealously guarded its prerogative of taxing the subjects of the realm, and taxation of road transport must become a national tax for national purposes. Local Government must continue to obtain its funds from some form of land taxation, or from such assigned national revenues as may be justified by the extent to which Local Authorities discharge national or semi-national

burdens. Indeed, it is likely that road development itself will once more compel a vast change in local Government, geographical, administrative, and financial, during the next quarter of a century.

Railways cannot remain content to carry the burden of non-paying branch lines, some of which will ultimately be taken over by the new administrative areas in much the same way as the toll roads of the early nineteenth century were taken over by Local Authorities.

That urban populations who seek a dormitory in the country will demand high-speed road-passenger services cannot be doubted, and this must lead to widening of roadways, or the provision of special ways for special classes of traffic. New roads will be provided from the vast increase in land values, due to improved communication, for no ambitious means of land communication can be contemplated by the private investor.

Road-passenger services have already been placed on a semi-statutory basis, and cut-throat and irregulated competition eliminated.

It cannot be long before the financial difficulties of the Railways and the appreciation of the necessity for some regulation in goods haulage by road will force Parliament to impose some form of restriction upon uneconomic competition in this respect, and road-haulage contractors will again become common carriers, with a certain protection against competition,

so long as they continue to serve the needs of the community.

As regards much of this, the student may observe some parallel in the changes and vicissitudes described in *The Story of the Roads*. Whether or no the vision I have attempted to sketch is realized, no one who has observed the national aspects of the ever-growing demands of the community for expeditious and economical transport can doubt that the story of the roads of the next century will be any less interesting or instructive than that of the past, so ably depicted in Mr Hartmann's work.

ALFRED HACKING.

THE STORY OF THE ROADS

CHAPTER I

THE EARLY HISTORY OF ROADS

WHETHER civilization tends to promote civility is a debatable question; there are many now who doubt whether life has been made any easier, pleasanter, or more convenient by man's mastery over matter. The advantages that are derived or are supposed to be derived from such modern developments as motor cars, aeroplanes, wireless, and television are perhaps counterbalanced by the loss of peace and privacy consequent upon their introduction. Life is daily, almost hourly, becoming more hurried and more complicated. But if it is doubtful whether the progress of civilization is conducive to man's real happiness, it is certain that it is inevitable and that resistance is useless. The old order may be regretted, but the new order will not be denied.

Nowhere is this truth more patent than in the all-important sphere of communications. Those sincere lovers of the beauty of the English countryside who agitate against the construction of the

vast new motor-roads that are now being made to traverse the land in all directions are simply wasting their time ; these roads are a natural consequence of the conditions of modern transport, and their provision forms the only possible solution of a complicated problem. The lovers of beauty would do far better to save their protests against destruction and endeavour to devote their energies to influencing construction. If the old beauty cannot be saved, a new beauty can be created. To praise the past is not enough, it is necessary also to make the future praise the present.

Roads have always been as much a cause as a consequence of civilization : they both precede and follow it. The provision of roads of some sort is essential to draw a country out of a condition of barbarism, but a state of civilization cannot be said to have been reached until communications have become fairly easy. Roads form perhaps one of the most effective agencies in the promotion of civilization, since the inability to effect an easy intercourse with neighbours is apt to stress local differences and keep alive narrowness and prejudice. As civilization advances there is an inevitable demand for better and swifter communications. Good roads are needed for the favourable development of commerce and agriculture because only by their means can all sorts of commodities be rendered easily accessible and obtainable at a

reasonable cost. The cost of commodities must always and everywhere be largely dependent on the cost of transport, which in turn must be dependent on the means of communication available. It is not too much to say that the prosperity of a nation is bound up with the state of its roads.

In the earliest days no roads, in the modern sense of the word, existed in Britain ; the drift-ways used by the Celtic inhabitants of the island could scarcely be dignified with the name. They were no more than customary tracks marked out by the frequent passing of man and beast. The Celtic population inhabited the highlands, while the valleys remained undrained swamps, and the tracks for the most part ran along the ridges of the hills, only descending occasionally to cross valleys at the fordable points of the rivers. In some parts of the country where suitable material was ready to hand rude roadways were formed with large stones. Vestiges of this most ancient form of paving are still to be found on Dartmoor and in the Yorkshire hills. Elsewhere no attempt was made to set man's hand to the roads, and so through constant use the tracks were usually worn down below the level of the surrounding country. It is likely that they served their purpose well enough and sufficed the needs of the small and scattered population.

With the coming of the Romans all was changed. Roads constituted a vital factor in the Roman empire-system, which was held together by a well-designed framework of excellent roads extending over Italy, Greece, France, and Spain, and wherein rapid means of communication with distant provinces were absolutely essential. Motives of military expediency in addition dictated the prompt construction of roads in Britain; for how else could a comparatively small military force hope to hold the country against a larger even though unorganized population? And so were made the four great Roman roads, which afterwards came to be known as Watling Street, Ermin Street, the Icknield Way, and the Fosse Way. These roads ran straight as an arrow from point to point, two lengthways and two across the land. The Romans feared no obstacles, even those raised by Nature. They were familiar with much more than the mere rudiments of road-engineering, and had already brought the art of road-construction to a high point of perfection when they first arrived in Britain, so that the state of the roads during the centuries of their occupation was better than at any time subsequently until the great period of road-construction at the beginning of the nineteenth century. The Romans, in fact, anticipated the theories of Telford and Macadam, and made the surface of their roads slightly arched, according to the principle

advocated many centuries later by the two great Scotsmen.

The finest of the Roman roads were composed of no less than five layers. The 'pavimentum' or foundation was of earth thoroughly beaten in. Upon this was laid the bed, 'statumen,' composed of large stones mixed with mortar. Then followed a mixture of small stones and mortar called the 'ruderatio,' and upon that was deposited the 'nucleus,' formed of lime, chalk, powdered brick or tile, or gravel, sand, and lime mixed with clay, according to what materials were available. Finally came the paved surface known as 'summum dorsum.' On some roads the Romans adopted the Carthaginian principle of intessellation, making use of huge many-sided blocks of stone and filling the interstices with small flints.

Little is known of the labour used for the construction of these roads or of how the cost of their making and maintenance was borne, though it seems most probable that they were built by military labour and kept in repair and maintained by the legions themselves. That their object was mainly if not entirely military cannot be doubted, for they linked up the chief strategic points in the island, and, moreover, no trouble was taken to construct new roads where there was no military demand for them. All over England traces of Roman occupation are to be discovered in places far from any of

the great strategic roads. Where no military purpose was to be served the Romans contented themselves with adapting the old Celtic tracks without troubling to metal them, though occasionally providing them with milestones.

So excellent in construction were the great Roman highways that they probably stood in need of very little repair, especially as they were not subjected to a great amount of wheeled traffic. The chief users of the roads were the legions themselves and the trains of pack-horses which transported their supplies. Important personages and messengers travelled for the most part on horseback. It is a remarkable fact that the speed normally attainable by a traveller in Roman times was greater than at any period subsequently until the introduction of railways. This was mainly due to enlightened organization. A regular system of posts was in force along all the more important highways in the Empire, and relays of horses were obtainable at post-houses only five or six miles apart, so that it was actually possible to travel as much as a hundred miles in the day.

Since the system of roads in England had been so admirably organized and maintained by the Romans it might have been expected that the roads at least would have survived the collapse of the Roman Empire. But it was far otherwise, although

that the Roman roads did not fall into complete disuse is proved by the fact that the great Roman highways received the Anglo-Saxon names by which they are more generally known. But if neither the Roman roads nor the ancient tracks were entirely abandoned, they were suffered to fall into disrepair, and, of course, the whole elaborate organization of posts and other facilities for travelling disappeared with their originators. The general decay of the roads was not due merely to carelessness and ignorance but had its origin in deep-seated political causes. The Roman road-system was part of the highly centralized Roman empire-system, a cog in a complicated machine. Organic centralization of this kind was utterly foreign to the Anglo-Saxon genius. Isolation rather than co-ordination was the political ideal of those who succeeded the Romans in the occupation of Britain. The land, instead of being one connected province held together by a network of strategic roads, was split up into a series of petty kingdoms, amongst which easy communication was for political and military reasons undesirable.

The condition of the roads became deplorable in the extreme. There was no machinery for their maintenance, and they received just so much attention as the local inhabitants thought fit to give them. Moreover, travelling became both difficult and dangerous, the highways being infested with

bands of robbers and marauders who preyed upon the luckless wayfarer. It has, indeed, been asserted that the great King Alfred was powerful enough to ensure security to travellers, and actually caused golden armlets to be hung on crosses by the road-side, confident that no man would be bold enough to remove them. But what this story possesses in picturesqueness it probably lacks in veracity.

With the growth of the manorial system from about the tenth century onwards there was a perceptible improvement in the matter of road-maintenance. The Common Law imposed upon the Lord of the Manor the obligation to keep the roads within his domain open and in good repair, and the Lord in turn was entitled to enforce this duty upon the whole body of his tenants.

The day of roads with properly metalled surfaces was still far distant ; the very best kind of road was made of gravel heaped upon a foundation of earth, stones, and rubbish, but there was no drainage, and, in consequence, when the subsoil became water-logged the surface was apt to sink. The greater part of the roads were no more than tracks marked out by constant use, never definitely planned, but growing up as and where they were needed. They ran between villages and farms, rarely taking the most direct route, but skirting pasture-land and plough-land and making detours to avoid swampy ground. It is from such causes that many

English roads first received their winding character. Their tortuousness was further increased by the practice of abandoning and enclosing the original road when it became impassable and beating out another way on firmer ground.

The law was less concerned with the roads themselves as concrete entities than with the abstract question of securing free passage. In theory all the roads formed part of the King's Highway and were maintained for the benefit of all the King's subjects; but in practice the King was concerned with the King's Highway only in so far as it formed part of the King's Peace. Royal interference with the highways was usually confined to affording protection to all such as travelled along them. In the Statute of Winchester, 1285, which dealt with the suppression of lawlessness and robbery, one of the provisions was that the highways were to be widened by the clearance of brushwood for 200 feet on either side to protect travellers from ambush.

In the matter of maintenance no assistance of any kind was furnished by the central authority; all such charges had to be borne by the landowners concerned, and, owing to the absence of necessity for any considerable amount of long-distance communications, and also to the difficulties and dangers of travel, in these early days the maintenance of the roads resolved itself largely into a local obligation performed in the local interest. All the

labour and materials had to be provided by the local inhabitants in shares apportioned to the value of the property they owned or rented in the district. This rule was of universal application, and it is worthy of notice that religious houses, holding their property in frank almoign, and therefore exempt from most other forms of feudal obligation, were not excused from this. It was a duty that in their case was probably performed with tolerable goodwill. In mediæval times there existed a chivalrous feeling of charity towards all travellers as unfortunates worthy of protection and assistance. Any traveller was certain of free hospitality in castle or monastery. It was this spirit also that caused the construction and maintenance of roads and bridges to be regarded as pious and meritorious work in the sight of God.

In the progress of civilization bridges are always subsequent to roads. In the earliest days no attempt was made to cross rivers by any other means than by fords and water-splashes. This circumstance accounts for the fact that so many of the most ancient towns in England sprang up at the fordable points of the rivers where the confluence of traffic was likely to bring a certain amount of trade to the townsfolk.

An exceptional instance of primitive bridge-building is to be found in the ancient stone bridges

LITTER, XIVth CENTURY.

of Dartmoor, where the material lay ready to hand. Enormous slabs of granite were laid on top of pillars constructed of two or three gigantic boulders, the whole being kept together by sheer weight. These bridges may be contemporary with Stonehenge and were certainly built on much the same principles.

The first bridges built within historical times in England were made of wood, and at any rate appear to have been very few in number. Although the Romans were of course conversant with the science of building stone bridges, they do not seem to have constructed any in England wholly of stone. Some of the more important ones were made of wood, laid upon stone piers, but the greater number were wholly of wood.

The Roman bridge built over the Thames in London was of wood, as were its successors, which were many, as the bridge was constantly being destroyed by floods or fire. At last, in 1176, a stone bridge was started, and took thirty-three years to complete. It consisted of twenty very low arches and resembled nothing more than an embankment with holes in it to let the water through. A double row of houses, including a chantry dedicated to St Thomas of Canterbury, was built along the top, and a large proportion of the expense for the upkeep of the bridge was provided by the rents of the shops and houses. This was not

actually the first stone bridge over the Thames, that at Wallingford being older.

Most of the earliest stone bridges in England were constructed by ecclesiastical enterprise and were probably the work of the same architects and craftsmen as built the great cathedrals and abbeys. Their ecclesiastical character was very marked. Often a small chantry was built on them, and the ministering priests would collect voluntary contributions from passengers for the maintenance and repair of the bridge. A chantry of this kind still remains on the bridge at Wakefield. On the Continent there was even an order of friars whose sole purpose was the construction of bridges. The best-known example of their work was the famous long bridge over the Rhone at Avignon. Though there is no record of this order of friars ever having come to England, there were certain lay brotherhoods animated with the religious spirit which made it their business to keep roads and bridges in proper repair. Such an one was the Guild of the Holy Cross, founded in Birmingham in the reign of Richard II. Ecclesiastical or semi-ecclesiastical bridge-builders were as active in Scotland as in England, and many fine bridges were built there during the Middle Ages.

Since the erection of a bridge was regarded as an act of piety, the faithful were sometimes called upon by their spiritual pastors to provide the funds for

carrying out the work. It is recorded that in the early fifteenth century Thomas Langley, Bishop of Durham, promised an indulgence of forty days to all subscribers to the fund for building a bridge over the River Eamont between the Counties of Westmorland and Cumberland. Pious considerations also often induced benevolent testators to leave large sums in their wills to provide for the erection of a bridge. Some even were public-spirited enough to confer this boon during their lifetime, and this was no light undertaking, for he who took it upon himself to build a bridge was obliged to maintain it, which seems rather hard, considering that the bridge had been provided for the use of the public. On one occasion, however, the Bishop of Lincoln found it unwise to give expression to this point of view. Riding one day towards Kelham, near Newark, he found a certain bridge under repair, and considering that the burden fell hard on the private owners, the Suttons of Averham, he presented them with thirty shillings in alms towards the work. But instead of being grateful for this kindly action the Suttons basely endeavoured to shift the burden of maintenance on to the worthy bishop. It is gratifying to record that they lost the suit they brought against him.

Although most of the bridges were thus built through ecclesiastical or private munificence, several

appear to have owed their origin to royal intervention. The King would grant a royal licence for the levying of a toll known as pontage, the proceeds being applied to the building of a bridge.

Sometimes the arrangements made for the maintenance of particular bridges were very curious and complicated. When the wooden bridge over the Medway at Rochester was replaced in the reign of Richard II by a stone bridge of nine arches, the burden of maintenance was carefully divided among several separate authorities. One arch was under the care of the King, two under that of the Archbishop of Canterbury, one under that of the Bishop of Rochester, while the remaining five were apportioned to the holders of various adjacent manors. As a general rule the owners of the property upon which the bridge stood were responsible for its maintenance, but where it could not be proved that the onus of maintenance fell by immemorial custom on some particular landowner, the duty, if the bridge was in the country, fell upon the county as a whole, not merely upon the adjoining parishes, and if it was in a town, upon the municipal corporation. Not only the bridge itself, but also the highway for three hundred yards at either end was comprised in these regulations. There must often have been considerable difficulty during the Middle Ages in fixing the responsibility for maintenance on any particular person or body,

and it was not until 1531 that the various regulations were codified by the Statute of Bridges.

Benefactions and bequests for the purpose of repairing roads, and even sometimes for the construction of new ones, were by no means rare in mediæval times. The new roads constructed in such circumstances often took the form of raised causeways, whence first originated the term 'high way,' that is to say a way raised above the level of the surrounding country. But apart from these manifestations of public spirit the condition of the roads was entirely dependent on the goodwill, energy, and competence of those to whom the adjoining land belonged. The principle probably worked well enough so long as traffic on the roads was inconsiderable and for the most part restricted to local intercommunication.

Until the fourteenth century practically all wayfarers travelled on horseback or on foot. There was little or no wheeled traffic save the rough country carts used for transporting produce over short distances. These vehicles were extremely primitive, very often being no more than square boxes of planks or wattles imposed on two crude wheels. The lighter forms of merchandise were transported on pack-horses, while the heavier forms were carried as far as possible by water. Any kind of carriage was exceedingly rare, though the evidence

of illuminated manuscripts goes to show that carriages resembling a hammock slung upon a framework of wood were not unknown in England even in Saxon times.

In the Middle Ages all who could afford to do so, even the women, made their journeys on horseback. Ladies at first habitually rode astride; the side-saddle does not appear to have been introduced into England till the close of the fourteenth century, when it is supposed to have been brought over by Anne of Bohemia, Queen of Richard II. From Norman times onwards persons of rank occasionally made use of a vehicle which does not come within the category of wheeled traffic. This was the horse-litter, a sort of bier, with horses placed between the shafts projecting at either end. Its breadth was necessarily small, and as a rule it was designed to carry one person only. A man in his full health and vigour would disdain such a conveyance, leaving it to women, aged persons, and invalids. Thus King John was carried in a horse-litter from the Abbey of Swinstead during his last fatal illness. Froissart writes of Queen Isabella, second wife of Richard II, being borne "en une litière moult riche qui étoit ordonée pour elle."

Wheeled carriages were introduced into England after the Crusades, and were then used only by the highest and most illustrious in the land, partly, no

ROYAL LITTER, XVth CENTURY.

doubt, owing to their immense cost. These elaborate and cumbersome vehicles were four-wheeled, and were drawn by three, four, or five horses guided by a postilion. In appearance they resembled nothing so much as a tunnel on wheels. The woodwork, including that of the wheels, was lavishly carved and gilt and the hood was usually composed of priceless tapestry. Between these costly chariots of the nobility and the rude carts of the peasantry there were no other wheeled conveyances.

Although the local roads in the Middle Ages may have sufficed the comparatively unexacting demands made on them, the condition of the main roads forbade the carriage of goods over long distances except by pack-horses, a means of transport so costly that internal trade was greatly hampered, and England became increasingly dependent on foreign countries for goods with which she could quite easily have supplied herself. Carriage by water was so much cheaper, speedier, and freer than carriage by land that it was on the whole found convenient to import from abroad instead of relying on home production. Even inland trade was conducted as far as possible by water. Goods, especially the heavier varieties, were carried by barge as near as possible to their destination and only then transferred to pack-horses. For centuries the rivers were England's main roads.

It was inevitable that with the passing of time there should have been an appreciable increase in long-distance traffic, and that this in turn should have brought forth complaints from those who had to maintain the roads that the incidence of the burden fell unfairly. The inhabitants of rural districts which were traversed by a main artery considered that it was unjust that they should be expected to pay for the maintenance of a thoroughfare which had to be wider and better than their own needs actually demanded. Thus hostility to traffic gradually became the mainspring of local highway policy. Such a point of view, though perhaps not unnatural, was a serious stumbling-block to the improvement of communications, but there was not as yet any general demand on the part either of the maintainers or of the users of the road for a revision or alteration of the existing system. Such protests as were made on either side were isolated and ineffective. As early as the reign of Edward I, one, Walter Godelak of Wallingford, prayed for 'the establishment of a custom to be collected from every cart of merchandise traversing the road between Jowemarsh and Newenham, on account of the depth and for the repair of the said way.'[1] The King rejected the petition, but his refusal seems to have been due more to indifference than to actual hostility to the principle, since he was not more active in responding

[1] Crowmarsh, Nuneham.

to the petitions of users of the road when, as happened sometimes, a local landowner was powerful enough to exact a toll. It is, for instance, recorded that the Lady of Egrum in Nottinghamshire took it upon herself to levy a toll on users of the road between Kelm and Newur.[1]

The principle that the public interest demanded the adequate maintenance of the roads and that the question could not be left entirely to the goodwill of the local landowners was slow in gaining recognition, but as it became accepted efforts were made to enforce the obligations imposed by the Common Law. Occasionally when a road was not kept in proper repair the sheriffs would order the payment of fines by those who had neglected their duty. At the same time the principle that the onus of maintenance ought really to fall upon the whole of the road-using public gained increasing acceptance. A curious compromise in the matter of maintenance is recorded in 1353. The road between Temple Bar and Westminster had fallen into disrepair, and the King ordered the landowners on either side to remake at their own expense and maintain the sides of the road to a distance of seven feet from their own property. The middle of the road on the other hand was to be paved with funds obtained from a tax on all merchandise passing along it on its way to or from the staple at West-

[1] Averham, Kelham, Newark.

minster. Three years later the City of London levied a general tax for road-maintenance on all vehicles bringing merchandise into the town. The justification for this tax was alleged to be that the roads near London were in so ruinous a state that merchants and traders were 'oftentimes in peril of losing what they bring.' The rate was a penny for a cart and a farthing for a horse each way. Carts bringing sand, gravel, or clay had to be paid for at the rate of threepence a week. The transport of provisions or other goods for 'great men' was exempt from the regulation. Such examples as these were, however, merely of local application, and their infrequency indicates the apathy or lack of initiative shown by all those who should have been most nearly concerned with the question.

Throughout the Middle Ages the roads all over the country were nothing more than miry tracks full of ruts and holes, and in the winter liable to be flooded over through lack of proper drainage. Travelling, however urgent, could scarcely be undertaken in bad weather. In 1339, when there was a particularly severe winter, the members of both Houses who arrived by the appointed day for the opening of Parliament were so few that it was impossible to proceed to business. Even in London itself the roads were so bad that on one occasion when the King went to open Parliament bundles of faggots had to be thrown into the ruts to fill

them up before the royal procession could pass over in safety.

In a climate as inclement as that of England communications were necessarily much restricted during a great part of the year. It was difficult to transport commodities through the bogs and quagmires that the roads became in rainy weather. As a result our forefathers used to prepare for winter as for a prolonged siege, laying in huge stocks of provisions to preserve them from starvation until the spring when the roads would once more become practicable. This applied not only to private households, but also on a different scale to towns. Throughout the Middle Ages and even later London itself subsisted mainly on salted provisions during the winter months.

In the fourteenth century, although the condition of the roads had not improved, a certain improvement in travelling facilities was observable. Horse-jobbing became a regular industry recognized with some alacrity by the Exchequer authorities, who derived considerable revenue from licences issued for hackneys and guides. The amounts paid for horse-hire on the Dover road at this time were as follows: one shilling for each of the first two stages, Southwark to Rochester, and Rochester to Canterbury, and sixpence for the remaining stage, from Canterbury to Dover.

The condition of the roads was scarcely conducive to great speed in travelling. Days were spent over journeys that now occupy only a few hours. Some idea of the length of time taken over journeys may be gauged from the fact that royal messengers, who may be expected to have been provided with every possible facility, were given forty days for the journey to Scotland and back.

One of the effects of the badness of the roads was the excellence of the inns in mediæval times. It is a curious but not incomprehensible circumstance that the inns are often at their best when the means of locomotion are at their worst. If the perils and discomforts of the road in the fourteenth century were very great, the thought that comfort and good fare, at a price of course, were available at every stage where the journey had to be broken, must have afforded some compensation to wayfarers.

Few, indeed, were those who travelled for pleasure in the Middle Ages ; the greater part of the users of the road were bent on business connected with either their bodies or their souls. The enormous power of the Church entailed a considerable amount of coming and going in the transaction of ecclesiastical affairs. Moreover, the religious spirit of the Middle Ages thronged the roads with pilgrims on their way to Rome and the Holy Land. Even more numerous were those who undertook

CARRIAGES, XVth CENTURY.

pilgrimages to holy places in England itself. The most celebrated of these was the shrine of St Thomas of Canterbury, and the Pilgrims' Way between Winchester and Canterbury was in consequence by far the best road in England ; but many of the devout journeyed also to the tombs of St Cuthbert at Durham and of Edward the Confessor at Westminster, to the shrine of our Lady of Walsingham, and to the Holy Thorn at Glastonbury. Pilgrims and palmers do not complete the tale of religious wayfarers, there were also itinerant preachers, pardoners, and mendicant friars of the Dominican and Franciscan Orders.

The nobility as well as the clergy possessed an immediate interest in the condition of the roads, for they, too, were of necessity great travellers. In those days men lived to a great extent on the produce of their own estates, and the English nobles led a somewhat wandering existence, owing to the wise policy of successive English kings in avoiding compact fiefs of large extent such as obtained in France. Instead of making grants of land in one district only, such as would have enabled the barons to become petty potentates, and therefore a perpetual source of danger to their overlord, they made separate grants of land in different parts of the country. This was the reason why the King of England was much more powerful in his dominions than the King of France was in

his. The barons as a class might be turbulent and rebellious, but as individuals they were never able to usurp quasi-royal authority over any part of the kingdom. Their journeys between their various estates were fairly frequent, for as the fat of the land became temporarily exhausted through a prolonged residence upon any one of their estates, they would move on to another with all their household. The same cause was partially responsible for the constant moves of the monarch and his Court. Among the lesser landed gentry and the middle classes there was very little travelling. The lay travellers who frequented the roads were for the most part not a very reputable lot, consisting of itinerant quacks, minstrels and gleemen, tumblers and buffoons, pedlars, chapmen, and tinkers.

The condition of the roads during the fifteenth century was even worse than it had been during the preceding two hundred years. This was due to three main causes. The first and most important was the waning power of the Church and the consequent decrease of pilgrimages and appeals to Rome. The corruption and impoverishment of the monasteries caused the monks to neglect their duties towards the roads, and this was a serious loss, since monastic and ecclesiastical foundations had hitherto set a high example in this matter. The second cause was the agricultural revolution which substituted pasture for arable land all over the

country and had the effect of lessening the necessity for cartage of produce. The third cause was the redistribution and consolidation of landed property after the Wars of the Roses, and the consequent diminution of nomad noblemen. Matters thus went from bad to worse, and the period comprising the latter half of the fifteenth and the beginning of the sixteenth centuries was the nadir of English roads.

CHAPTER II

ROADS UNDER THE TUDORS

During the first half of the sixteenth century the roads had degenerated into a far worse condition than they had ever been in in mediæval times. No sort of care seems to have been expended on them by the proper authorities; the private munificence of the living or the dead furnished almost the only resources for keeping the roads in repair. Charitable bequests for such purposes were still not infrequent; King Henry VII himself left a considerable sum of money for the repair of specified roads. A paragraph in his will runs: 'His executors shall bestow 2,000*l* upon the repair of the highways and bridges from Windsor to Richmond manor and thence to St George's church beside Southwark, and thence to Greenwich manor, and thence to Canterbury.'

The suppression of the monasteries by Henry VIII completed the general decay by removing the most important class of road-makers and maintainers. The new owners of ecclesiastical lands were inclined to disregard the obligations imposed upon landowners by immemorial custom, and the

Government seemed either unwilling or unable to coerce them. It was not that the importance of the question was overlooked by the King and his advisers; indeed, one of Wriothesley's suggestions for the application of the increased revenues resulting to the Crown from ecclesiastical confiscations was that the King might 'assign yearly for repair of highways or other good deeds, whereby valiant beggars may be set to work, 5,000 mks.' Likewise in a memorandum 'Towchinge chaunteryes and soul prestes to be the Kinges,' whereby it was proposed that charitable bequests of land 'given to the use of the finding of priests to sing for the souls of the dead' or for other similar pious purposes should be suppressed and their revenues diverted to the maintenance of national defence, one of the classes of bequest expressly exempted consisted of those for amending highways and maintaining bridges and passages. But on the whole official intervention was not vigorous enough to be effective. An Act of Parliament in the time of Henry VIII declaring that, when the original track grew so founderous that it was no longer practicable to use it, it could be abandoned and a new track beaten out alongside was typical of contemporary legislation, which was always rather permissive than compulsory, so that it is impossible to judge what improvement—if any—resulted to the roads from it.

By the middle of the century the roads every-

where had become so bad that often they were completely impassable in the winter, and it was usually found necessary to postpone the carting of any sort of heavy material till the summer. In these circumstances Parliament was absolutely forced to give its attention to the subject, and as a result of its investigations and deliberations eventually passed the important Statute of 1555 (2 & 3 Philip and Mary, c. 8) which became for nearly three hundred years the basis of road maintenance. In theory at least, it was an excellent piece of legislation, no revolutionary measure, but rather a reasoned statement of tried old principles. While the obligation imposed by the Common Law was maintained, the duties of the various parties concerned were for the first time definitely apportioned and a certain amount of new machinery was devised for their efficient execution.

Except where it could be satisfactorily proved that the onus of maintenance rested by custom on any particular person, the obligation to maintain the roads was now imposed upon the parish as a whole and all its inhabitants, who were expected to contribute assistance according to the amount of land they held in the parish. All the labour, material, tools, and horses and carts had to be furnished gratuitously. Every person holding land of £50 annual value had to provide two men with a horse and cart, while every householder, cottager,

or labourer was obliged to go to work himself or to send an efficient substitute. Four days in each year were to be fixed for the undertaking of the necessary repairs to the roads, and the labourers were to work for eight hours on each of these days. The superintendence of all these arrangements was put in charge of an official appointed by the parish. These officials were usually known as Surveyors of the Highways, although in different localities they were sometimes known by other names, such as Overseers or Supervisors of the Highways, Waymen, Waywardens, Boonmasters, Stonemen, or Stonewardens. The office was generally held by a local farmer or shopkeeper, scarcely ever by anyone holding a higher social position. Parsons and doctors were legally exempt.

The duties of the surveyor were many and varied. He had to inspect the highways three times in the year and report upon their condition to the local justices. He had to see that owners of land adjacent to the roads kept them clear of obstructions, and to take care that the road-surface was not unduly cut up by heavy waggons drawn by a greater number of animals than were permitted by Statute. If he found any defects of this nature he was to rise up in church immediately after the sermon on the ensuing Sunday and to give notice that if the matter were not remedied within thirty days he himself would deal with it and charge the expense

incurred to the offender. In church also he was to announce the days he had fixed for the performance of Statute Labour and to call upon the inhabitants to appear at the appointed time.

To the surveyor also fell the task of administering the Highway Fund, which was made up of money derived from fines, compositions, and commutations. From time immemorial the Manorial Courts had levied fines for offences and neglect in the matter of the highways. The Statute of 1555 enacted that all such fines should henceforth be assigned to the surveyors to be bestowed on the upkeep of the highways. As time went on there was a gradual and almost imperceptible transition from a system of service to be rendered wholly in kind to a mixed system of Statute Labour and money payments. The device of commutation increased steadily towards the end of the sixteenth century, as the wealthier members of the community found it more convenient to pay the penalties that they could incur through default of service.

The Statute of 1555 was avowedly intended to be no more than a temporary and experimental measure, but it was so successful that it was permanently re-enacted in 1563 by the 'Statute for mending of Highways,' which contained an additional provision increasing the number of days upon which Statute Labour had to be provided to six in the year. This Statute also tended to en-

courage the transition to a system of money payments rather than of actual service in kind by giving to the local justices the power to present a parish for neglect in maintaining its highways. The expedient of presentment or indictment was a criminal procedure derived from the Common Law. If the case was proved, a heavy fine was imposed on the parish, though the levying of it was usually deferred for three months to enable the parish to put the roads into repair of its own initiative if it should prefer to do so. In either case, whether for repair by the parish or for the fine, the money was raised by means of a special rate imposed upon all the inhabitants of the parish. This procedure was increasingly used and was regarded with favour by local magistrates, who were thereby relieved from the troublesome and disagreeable necessity of enforcing Statute Labour. It is extraordinary that it was so readily tolerated, since all deliberate attempts made by Parliament to levy a direct rate for road-maintenance were invariably met with storms of protest. How this method really differed from a direct levy it is a little difficult to see; but the Statute Labour system had become so ingrained in the rustic mind that no amount of criticism could bring about its abolition, and it remained the legal basis of road-maintenance right up to the first quarter of the nineteenth century, when the upkeep of the roads was normally secured by the process of in-

dictment and the surviving remnants of the original system had degenerated into little more than rather absurd formalities.

In theory the whole system introduced by this legislation was probably as good a one as could have been devised in its time, considering all the circumstances, but it was one thing to enact regulations and quite another to have them carried out. Many defects were sufficiently obvious. Seeing that the surveyor was merely an equal among equals he was almost bound to be one of three things—inefficient, partial, or, if he carried out his duties properly, unpopular. Natural inefficiency and ignorance could not of course easily be remedied, but many of the surveyors were in addition inclined to be lazy or indifferent and neglected the roads until they became impassable and action was belatedly forced on them. The surveyor's opportunities for showing favouritism, with or without a financial or equivalent inducement, were unlimited. Still it was not an office that was eagerly sought after, the disadvantages attached to it considerably outweighing the advantages, especially in the eyes of an honest man who was unwilling to indulge in such opportunities of petty corruption as might be afforded to him. Indeed, complaints were frequently heard from surveyors that they were obliged to serve continuously, since there was so much reluctance to take on the job.

In the very nature of things the surveyor could hardly be expected to possess any technical skill. He would have very little knowledge of how to repair a road, and absolutely none of how to construct one. The majority of the roads in Tudor times were made of soft dirt with an admixture of gravel, sand, pebbles, or any other material that the geological structure of the particular locality could supply. The most favoured method of repair was simply to heap all available rubble into the ruts. Another slightly more advanced but still primitive method occasionally adopted was to plough up the road with a heavy machine drawn by six or eight horses. The furrows were cast towards the centre of the road and were then harrowed down to as level a surface as could be attained.

With the exception of pack-horse causeways there was no paving in the country and very little in towns. About 1552 amongst 'Articles devised by Sir Nicholas Strelley, captain of the castle and town of Berwick, for the surety and profit of the same,' was one declaring 'That they be compelled to pave their streets, which are so foul that on alarm the soldiers cannot pass through to repair to the walls.' In the latter half of the century paving became more general and many towns and boroughs obtained Acts of Parliament authorizing them to pave their streets. The work does not, however, seem to have been always performed with expedi-

tion ; in Newark, for instance, the paving of the streets had only just begun in 1621, although the requisite legislation had been obtained in 1585.

The soft tracks which formed the greater part of Elizabethan roads were doubtless convenient enough for the droves of cattle, sheep, pigs, and even geese and turkeys which were constantly passing along them to provision London and other large towns, but they were less suitable for the trains of pack-horses by means of which the transport of goods was then almost entirely conducted. A harder surface was necessary for these animals which, since they carried all their load on their backs, required firm ground beneath their feet. The pack-horse tracks were kept on high ground as far as possible, a circumstance which had considerable influence on their formation. Hills were sought after rather than avoided. A pack-horse road never went round a hill, but wriggled up it with many a corkscrew turn. Where it was necessary to descend to low-lying land recourse was often had to narrow paved causeways just wide enough for one horse to walk on, that is to say between a yard and a yard and a half in breadth. Along these narrow causeways the long strings of pack-horses used to make their way, taking precedence over all other travellers, so that any horsemen who were unlucky enough to meet one of these caravans when riding along a causeway were forced to descend into the miry

road to make way for it. When two trains journeying in opposite directions met on a causeway one of them had to give way by descending into the slough at the side, whence its extrication was often a long and difficult undertaking, so much so, in fact, that the decision as to which train should take precedence was rarely settled without blows. Practically all the transport of goods over long distances was conducted by means of pack-horses; the use of waggons was confined to the carriage of very heavy materials and then only for short distances.

In the sixteenth century most travellers, even the Kings and Queens on their royal progresses, still rode on horseback. Wheeled conveyances were rarely seen until the closing years of the century, although they were occasionally used on state occasions much earlier. Queen Mary, for instance, proceeded to her coronation in a 'charrett gorgeously beseen.' But ordinarily both she and her successor preferred to ride. The first coach was seen in London in 1555, having been constructed, apparently after a Dutch pattern, for Henry Manners, Earl of Rutland, by one Walter Rippon, who afterwards built coaches for Queen Elizabeth. In 1564 Rippon constructed for the Queen a 'hollow turning coach' with pillars and arches, and in 1584 a still more elaborate 'chariot throne with four pillars behind, to beare a crowne imperiale on

the toppe, and before two lower pillars, whereon stood a lion and a dragon, the supporters of the arms of England.' Some ten years before the construction of this magnificent vehicle he had received the appointment of Queen's coach-maker by a grant giving him during pleasure 'the office of builder of all the Queen's coaches, close cars, chariots, and waggons, as also of all other carriages, as well by land as water; fee 1s. a day, and for a livery coat yearly, three yards of red cloth at 12s. per yard, two yards of black velvet at 18s. per yard, to guard the same, and eight yards of frieze at 1s. the yard for the lining, with the making and embroidering with the letters E.R.' Queen Elizabeth's favourite coach seems, however, to have been, not one of Rippon's design, but one brought over from his native country, Holland, by her coachman, William Boonen. It is probable that this was a lighter and more comfortable vehicle, since coaches were now more generally used on the Continent and their construction was doubtless more advanced.

Coaches in England were at first very rare. 'A coach,' says Taylor, the water-poet, 'was indeed a strange monster in those days, and the sight of them put both horse and man into amazement.' Though many of the nobility and some of the wealthier commoners possessed their own coaches as early as 1585, they rarely used them except in London, since the country roads were too difficult

PALATIVM REGIVM IN ANGLIÆ REGNO APPELLATVM NONCIVTZ,
Hoc est nusquam simile.
Effigiauit Georgius Houymaghus Anno 1582.

ELIZABETHAN COACHES BEFORE NONSUCH PALACE.

to negotiate. Country gentlemen, however well-to-do they might be, did not venture to use them because of the condition of the roads, and such wheeled traffic as was to be found on the highways belonged rather to the lower than to the upper classes. The first vehicles to carry passengers for hire were the rough carriers' waggons, which towards the end of the century began to take a few passengers for short journeys.

The evil state of the roads was undoubtedly responsible more than anything else for the apparently slow development of vehicular traffic in England. Considering the uneven surface of the roads and the fact that the first coaches were springless, the discomfort of travelling by the new method must have been almost unbelievable. With the admirable candour characteristic of her family, Queen Elizabeth once informed the French Ambassador that after a coach-journey when she had been obliged for some reason to travel unusually fast, she had been so severely jolted that she had been unable to sit down with comfort for several days.

Besides the check imposed by the state of the roads on the development of coaches there was also a considerable amount of opposition to them from a variety of causes, one of the chief being the fear that they would ruin the breeds of English horses and English men, the former by giving them too

much exercise, the latter by giving them too little. The enemies of coaching urged that, while to ride the great horse was a healthy and manly exercise, to recline on velvet cushions in a great coach was an effeminate and degenerate luxury. The argument would carry more weight nowadays were riding on horseback compared with riding in a motor car, for there can be little doubt that driving in a coach in Elizabethan times, and in fact throughout the coaching era, can have been no idle relaxation but an exercise of some severity with its due effect on the liver. Archbishop Laud himself recognized the medicinal value to one of sedentary habits of frequent rides in a coach when on his translation to the see of Canterbury in 1633 he wrote to Lord Strafford lamenting that he would henceforth be obliged to reside at Lambeth Palace. 'I doubt I shall never be able to hold my health there one year,' he complained; 'for instead of all the jolting which I had over the stones between London-House and Whitehall, which was almost daily, I shall now have no exercise, but slide over in a barge to the Court and Star Chamber.'

Travelling in the days of the Tudors seems to have been a slow and leisurely proceeding, but this aversion from undue haste consorted well with the self-satisfied spirit of the age. Nevertheless, although rapid communications were as a rule neither required nor desired, they could even then

be obtained by anyone possessing sufficient wealth and power. Cardinal Wolsey set up a thoroughly efficient system of private posts whereby he was enabled to correspond with Brussels with a rapidity and despatch that was well-nigh unique in his day. Perhaps the greatest individual achievement was Sir Robert Carey's journey to Edinburgh in his anxiety to be the first to announce the death of Queen Elizabeth to her expectant successor, James of Scotland. According to his own account he rode as far as Doncaster, a distance of 153 miles, on the first night, and, in spite of a serious fall from his horse, which delayed him for some hours, accomplished the whole journey in less than sixty hours. But Carey, on his own showing, seems to have been a breaker of records in rapidity of transit. In 1599 he walked from London to Berwick in twelve days, thereby winning a wager of £2000. More in accordance with the spirit of the times was the period of five weeks occupied in the journey from Edinburgh to London by James I when he came to take possession of the English throne.

CHAPTER III

ROADS UNDER THE STUARTS

The expansion of England in the reign of Queen Elizabeth and the consequent rapid growth of trade and improvement of manufactures had by the beginning of the seventeenth century brought about a marked increase of long-distance traffic. The greater part was still horse and foot traffic, but already there were symptoms of an increase of wheeled conveyances, especially in and around London and other large towns. As a result of their advent the roads became temporarily worse than ever.

The condition of the highways, especially of those over which he himself had frequent occasion to pass, was always a matter of grave concern to King James I. Being wont to spend much of his time at Royston in Cambridgeshire, he was constantly preoccupied with the problem of procuring a better road for his journeys, and kept up a protracted and somewhat acrimonious correspondence concerning the repair of the highway with the Justices of the Peace for the counties through which passed the main road to Royston and Newmarket.

The local authorities were evidently very backward with the work, for in 1609 Thomas Norton, Surveyor of the King's Highways, in a petition complains of their slackness, hopes that he will not be blamed for their neglect, and requests leave to undertake the work himself and to compel the service of carts and labourers to complete it. This Thomas Norton appears to have been the first person to hold the office of Surveyor of Highways to the King. Possibly the office was at first temporary and experimental, since it was not until 1616 that the grant was registered appointing him 'Guide and Surveyor of the Ways' for life. In 1619 he was granted the fines for non-amendment of the highways in certain counties for life, so that the position does not seem to have been altogether unprofitable.

The deplorable state of the roads was generally attributed by those who had the task of repairing them to the wear and tear produced by heavy waggons. The idea that there was any possibility of adapting the roads to the traffic does not seem to have occurred to anyone; instead, a proclamation against the use of such waggons was issued in 1618. But it has always been impossible to impede the development of transport, and it is scarcely surprising that little attention was paid either to this proclamation, or, in spite of the warning that all offenders would be prosecuted in the dreaded Star

Chamber, to that which four years later forbade the use of four-wheeled carts or waggons as destructive to the highways, and ordered that no two-wheeled carts should be loaded with more than twenty hundredweight or drawn by more than five horses.

Although James I had from the very beginning of his reign started the agitation for the improvement of the highways, singularly little seems to have been accomplished. In 1622 the Council informed the Justices of the Peace for Surrey, Essex, Middlesex, Hertford, Cambridge, and Huntingdon that the highways in their districts being 'much decayed' they were to take immediate order for their repair before winter, 'especially in those places where the King may have occasion to pass.' In the following year Lord Chief-Justice Ley and Sir John Dodderidge appointed a Commission to attend to the repair of the highways near Royston, the expense to be borne by the townships or hundreds, or, if necessary, by the county. But all threats and exhortations from above were ineffectual ; two months later the Council was once again informing the Justices of Essex that the King was offended that no better attention was paid to the repair of the highways, especially of those frequented by him. If the townships could not bear the charge of their several roads, the hundreds or even the whole counties were to be taxed, and a return of progress was to be made in twenty days.

In the face of this insistence the Justices were at last stirred, if not to improve the roads, at least to defend themselves. Those in Hertfordshire reported that they had lately expended, besides the usual allowance, £400 on the highways and £100 on the bridges 'in the roads which are His Majesty's passage,' 'but they are so cut up by heavy four-wheeled carts, that without their suppression, they cannot be kept in repair.' They wound up by asserting that they could do no more till the Midsummer sessions, when they would consider the matter again.

The Essex Justices, who had already suggested that a Commission of Oyer & Terminer should be appointed for two or three years, and that some of the judges should be authorized to explain certain doubtful points in the Statute for Highways, now declared that as a matter of fact they had carefully repaired the highways, 'but the carriers, who forbore for a time to use the four-wheeled carts and many horses forbidden by the proclamation, are beginning to employ them again, so that the ways cannot be kept in repair.'

In consequence of these complaints it was ordered that the proclamation against four-wheeled carts should be more strictly enforced.

Since the roads in Middlesex were apparently not so much injured by carts, the justices there had to find a different excuse for the condition of the

highways under their charge. They accordingly sent in to the Council 'the names of such persons of quality as have refused to contribute to the repair of the highways, thereby causing meaner persons to do the same, to the great decay of the roads.' There seems to have been some justification for this plea, as similar complaints were frequently received from the churchwardens, constables, and surveyors of several London parishes.

And so the tussle went on, the King complaining, protesting, threatening, and ordering immediate improvements, the justices expressing their willingness but inability to carry them out. After a thoroughly uncomfortable journey, in which he had been shaken and jolted almost beyond endurance, His Majesty would once more give vent to some protest as that there was no improvement in the roads from London to Royston 'especially at Collins Inn, near Ware, where the King notices their being hardly passable.' He would order the Council to examine whether the fault were in the Surveyor or the County, and to provide an effectual remedy. The Lord President would thereupon reply soothingly that he had ordered the repair of the highways where the King passed and the punishment of those who had failed to attend to it sooner. The same orders were issued at regular intervals to the road authorities and invariably met with the selfsame reply: 'The noblemen and

gentlemen of Essex have contributed themselves, and levied a tax on the inhabitants, for the repair of the highways, and further request a toll upon the carts which chiefly cause the decay of the roads. The people of Hertfordshire, having spent great sums on the roads, desire a similar toll on carts, which, with a tax on the parishes, will soon repair the damage.'

Although James I for personal reasons was chiefly anxious about the parlous state of the Royston Road, the normal condition even of the main roads everywhere else was equally execrable. On special occasions extraordinary measures had to be taken to render them passable. At the time when it was expected that the Prince of Wales, afterwards King Charles I, would marry the King of Spain's daughter, the Duke of Richmond with six other illustrious noblemen proceeded to Southampton to arrange pageants and procure the repair of the highways for the reception of the Infanta.

So utterly neglected were some of the roads at this time that on occasion a stretch of road would degenerate into such a state that it was completely impossible for any sort of traffic to make its way along it, and another track had to be beaten out alongside. This was a perfectly legal proceeding, for although the King and his people possessed nothing more than the right of free passage along the highway, that at least they did possess, and if

it could not be obtained, they could seek it elsewhere, even though by so doing they might destroy crops or pasture.[1]

Sometimes leave was given to a private individual on certain conditions to divert a highway that ran over his own property. In 1621, for example, Sir Thomas Holt was permitted to enclose certain highways in order to improve his parks on condition that he constructed, maintained, and repaired other highways in lieu of those enclosed.

Neglect of the highways was by no means confined to country roads ; the roads near London and even in the immediate vicinity of the royal palace of Whitehall were little better. In 1626 the Earl of Dorset was obliged to send a peremptory message through Sir John Danvers to the Surveyors of the Highways in the parish of St Martin-in-the-Fields. He forcibly expressed ' his just dislike that nothing is done towards the repair of the highway between the West Gate of St James Park and the

[1] The principle is made delightfully clear in the bastard Norman-French with which lawyers at that time occasionally still clothed their thoughts.

Si la soit un common Chimin pur touts les subjeas de Roy & ad estre use temps dont memorie que quant le chimin ad estre founderous, les subjeas de Roy hont use daler per outletts sur le terre prochein adjoynant le Chimyn gisant en le open field nemy enclose, ceux outlets sont parcell de chimyn, car les subjeas de Roy doint aver un bon passage, & le bon passage est le chimin, & nemy solement le beaten tracke, car si le terre adjoynment soit seme ove graine les subjeas de Roy (le chimyn estant founderous) poient aler sur le graine.

stone bridge at the edge of Chelsea fields. If a satisfactory account be not given before 8 o'clock the next morning, the Earl will conceive it a continued contempt, which he will proceed to censure, and punish as in his wisdom shall seem fit.' There seems, however, to have been some excuse for the luckless surveyors in this instance, as they had been unable to secure the requisite funds, many of the parishioners who had refused to pay towards the repair being of so exalted a rank that it would have been difficult to put any pressure on them. They had already submitted a list of the delinquents, who included the King's favourite, the Duke of Buckingham, six earls, several peers and peeresses of lesser rank, and other distinguished persons, such as Endymion Porter and Inigo Jones.

The last report of Thomas Norton as Surveyor-General, appropriately enough still concerned with the Royston Road, was made in 1625. Perhaps the difficulty of obtaining any improvement worried him to death or at any rate to retirement, for next year another Surveyor had come upon the scene. Thomas Hebbs, in his capacity of 'Surveyor of the King's Highways,' was granted the sum of £101, 6s. for 'making and minding gates and bridges in His Majesty's private ways near London.' He was at the same time commanded to take special care to repair the ways in Long Acre and other

roads, including the road between Chelsea and Fulham. Hebbs seems to have taken his ungrateful task seriously enough, and was as active as he could be within his circumscribed authority in trying to produce better conditions, constantly drawing the Council's attention to the slackness of the scavengers and the dilatory methods of the local road authorities. But in truth the royal Surveyor seems to have been vested with little power save that of constant and vehement protest.

Even after James I's death and the consequent cessation of his vigorous animadversions the last had not yet been heard of the Royston Road. In 1631 the whole business was reopened when, in reply to remonstrances concerning the state of the highway, the local justices reiterated their grievance against four-wheeled carts and excess of draught-animals. The chief offenders were the maltsters, and the justices suggested that they should be compelled to carry their malt on horseback from Royston to Ware between Michaelmas and May, when owing to the clay soil on which they were laid the roads suffered most from the passing of the waggons. The Surveyor-General himself endorsed their application for the suppression of the malt waggons, but no notice was at first taken of their suggestions, though they continued to press them at every opportunity. Several years passed before the Government thought fit to order the enforce-

ment of the proclamation against waggons and decided to commit some of the offending maltsters to the Marshalsea prison as an example. A further proclamation against waggons issued in 1635 commanded that henceforth no common carrier nor other person upon the common highways should go or travel with any waggon or carriage whereon was laden above twenty hundredweight, nor for the draught thereof were to be used above five horses, or four oxen and two horses, or six oxen.

The King projecting a journey into Scotland in the summer of 1634, the road authorities all along his route were informed of his intention in the preceding year so that the roads might be made at least passable. The various counties loyally promised to do their utmost. From Rutland and Durham came assurances that the highway would leave nothing to be desired ; from Hertford the cheering information that roads and bridges had been repaired and a way made through private grounds where the ordinary way was not easy for coaches. Only from Nottingham came a less hopeful report. Although everything possible would be done to have the road ready by May, the inclemency of the weather had interfered considerably with the work of repair.

By 1637 Thomas Hebbs too had disappeared and his place had been taken by Henry Dewell. The new Surveyor-General was quick to place his

finger on the weak spot in the system of road-administration. He had found the roads neglected and in many places impassable and furnished an explanation in a letter to the Council. 'Many parishes have not done half their work for years together by reason that poor men are chosen surveyors who are ignorant of that service and also stand in fear of their neighbours' displeasure, so that they dare not present them according to statute.' When the Council requested him to be more explicit he informed them that Kingston, Stepney, and Walton-on-Thames had been particularly remiss, but that he could not procure any accurate details. 'He hears of offences wheresoever he goes, but for want of power he cannot discover the particulars.' He was thereupon empowered to order surveyors to effect repairs wherever he thought fit and was to report them to the Council in cases of neglect or refusal.

Encouraged by the Council's order Dewell set to work, and with a greater measure of success now that he was in a position to bring recalcitrant surveyors to book. 'John Baker, surveyor of highways for the parish of St Martin-in-the-Fields, being charged to mend the ways between the Mews-gate and Knightsbridge, and to remove rubbish which lies about the Mews, refuses to do any service at all, and in jeering words answered "that there are rich men in the parish who will have no tricks

put upon them."' By virtue of the Council's order Dewell was at any rate able to 'put a trick' on the impudent fellow, who was promptly taken and detained in custody for a while to cool his heels and his ardour.

An example of Dewell's keenness and activity and also incidentally of the sort of difficulties under which he laboured is to be found in a letter of his to the Council dated July 2nd, 1639. 'In obedience to your instructions I certify that Richard Canning of Newington, Surrey, last summer by carts conveyed great store of bricks and other heavy carriage over his Majesty's bridges, and in the private way between Lambeth and Greenwich, until one of the bridges was broken. His Majesty passing in his coach that way to Greenwich, was stopped by reason of the bridge being broken, and constrained to come on foot over, while the coach came dangerously over after. Canning refusing to mend or repair the same, I was constrained to lay out my own money, and with great care performed it myself. All which I leave to your Lordships' consideration.'

Little attention could be paid to the roads while the Civil War between Charles I and his Parliament was raging, and during the progress of hostilities they fell into the gravest state of disrepair. But the Commonwealth Government speedily displayed

a laudable activity in the matter of restoring and improving communications. Not only were measures taken to suppress highwaymen and render the roads once more comparatively safe for the traveller, but also attention was immediately directed to the repair of the highways themselves. In 1650 the Council proceeded to consider measures 'for mending the highways within the late lines of communication.' Four years later the whole problem of roads was seriously taken in hand in a statesman-like spirit. The question of maintenance had now become of overwhelming importance, since it was obvious that the resources of the local surveyors were totally inadequate.

The Council of State in January, 1654, ordered Baron Thorpe, the Recorder of London, and Sir William Roberts to prepare an 'Ordinance for repairing the highways, preserving them, and preventing the inconveniences arising by carriages especially in and about London.' The matter was considered of such urgency and importance that before a month had passed the Council peremptorily requested the Commissioners to hasten their report. This they did, and by March they had produced an Ordinance of a clear and comprehensive nature.

The chief provisions of this 'Ordinance for Better Amending and Keeping in Repair the Common Highwaies within this Nation' were as follows. In every parish of England and Wales

two householders worth £20 a year or £100 personally were to be chosen surveyors of highways. If there were no such persons, £20 a year was to be rated on the parish and the overseers of the poor were to be surveyors of the highways. The surveyors were to be sworn to execute the office faithfully, or on refusal were to be fined £10.

Within ten days of being sworn in the surveyor was to view all roads and streets and nuisances therein and consider what would be needful for repairs on pain of forfeiting twenty shillings ; also to lay on taxes for repairs, but not to exceed one shilling in the pound on the rent or in £20 on goods except in cases of prosecutions against those who failed to remove nuisances.

The Ordinance also contained regulations relating to the mending of bridges, the scouring of ditches, and the getting of stones and other road-materials. Surveyors were to keep proper accounts, and provided that they did their duty were to be defended in law in what they did by virtue of the Ordinance.

A drastic provision was made against heavy waggons. When a cart was drawn by more than five horses or more than six oxen and one horse in contravention of the regulations, all the supernumeraries were to be seized and detained till a fine of twenty shillings each had been paid for them. It was afterwards found necessary to modify this

particular clause. Later Ordinances expressly exempted the carriage of 'great guns' and of timber for the Army and Navy, and it was intimated that in certain circumstances other exemptions might be granted on special application.

This was the first time that the momentous experiment of instituting a compulsory tax for road-maintenance had been tried. Another advance was made in the partial recognition of the principle that those who used the roads should bear a share of the expense for their upkeep. A provision in this same Ordinance declared that, if necessary, adjoining parishes, whose inhabitants naturally made some use of the local roads outside their own immediate district, could be called upon to supply a special rate in aid. But the long-distance traveller still remained exempt and contributed nothing to the upkeep of the roads which he used.

The country was inclined to be backward in embracing the new principles thus introduced, and they had scarcely had enough time to make any permanent mark on local government before the Restoration came and swept them away with the rest of the Commonwealth legislation. But where the compulsory rate had been tried it had proved an unqualified success. 'This way did not last long,' wrote a keen observer, 'but it did so effectually do the business and it wrought such a

reformation that the like was never seen before or since.'

Mr and Mrs Sidney Webb in their admirable and erudite work on the King's Highway are inclined to take the view that in the sphere of roads, as in most other respects, the years of the Commonwealth formed the one bright epoch in English history, and to compare subsequent legislation most unfavourably with the measures promulgated during the days when the country was nominally Republican. But although the Commonwealth Government at first sight really does seem to have been vouchsafed a premature glimmering of the significance and importance of the road question, it may on the other hand reasonably be argued that the advance made at this time was in reality no greater or more remarkable than might normally be expected. The legislation of the Restoration, far from being retrograde, was even more progressive than the backward state of public opinion warranted.

One of the measures up for discussion when Cromwell dissolved his Parliament in 1657 was 'A Bill for Repairing of the Highways and Improving the Public Roads,' but although this came to nothing Cromwell himself when Dictator was by no means neglectful of the roads. Mr and Mrs Webb mention as evidence of Cromwellian superiority the fact that the Protector shortly before his death had

actually appointed by patent a 'Surveyor-General of the Highways' with authority throughout the kingdom; but far from it being the case that Cromwell was the first to contemplate the appointment of a Surveyor-General of the Highways that office, which had been in existence for many years, had actually fallen into abeyance during his time. It is recorded, indeed, that in 1655 Henry Dewell, 'Surveyor of the Highways to the late King,' applied for the post to be revived. It does not seem to be known whether his request was granted or not, though it was quite probable that it was he whom Cromwell had in mind, since he was very strongly recommended as being both honest and experienced.

In July, 1660, shortly after Charles II's return, Andrew Lawrence was sworn 'Surveyor-General of the Highways and Guide of Ways, Bridges, Gates Causeis, and Passages.' He was confirmed in this position in 1661 and held it all through the reigns of Charles II and James II, retiring in 1690 in favour of Charles Parry, to whom he apparently sold his office. Lawrence was paid at the rate of two shillings a day, whether employed or not. When in active employment he received an additional allowance of three shillings and fourpence a day with a similar amount for riding-charges.

Charles II followed his grandfather's example in taking a personal interest in the condition of the

roads—and doubtless for much the same reasons. On March 1st, 1661, when about to go down to Portsmouth to meet his bride, Catherine of Bragança, he made a speech to the House of Commons, begging in his usual half-bantering style 'that the ways may be mended, so that the Queen may enter with decency, and not find Whitehall surrounded with water.'

Although all the Commonwealth legislation was as a matter of course done away with at the Restoration, this was because it was illegal, not because it was considered bad or undesirable. It was obvious that in the matter of roads for example the legislators of the Interregnum had been on the right track, and it was determined to re-enact the greater part of the measures passed during this time. By 'An Act for enlarging and repairing the highways,' 1662, the surveyors, together with certain parish representatives, were authorized to levy a rate for maintenance not to exceed sixpence in the pound. Their action was to be confirmed by a Justice of the Peace. But it was one thing to pass an Act of this kind and quite another to get it obeyed. In 1665, Charles II, always solicitous for the improvement of London streets, wrote to the Lord Mayor lamenting the want of due execution of the late Act for repair of highways and pointing out how better roads would contribute to the amenities of the city. This argument he repeated in a

subsequent letter, in which he urged that the Act should be followed 'not only for the prosperity but for the safety and beauty of the City.'

The City, alas! was infinitely more concerned with its prosperity than with its beauty, or any other less mundane advantages. It showed also a lamentable insensibility to new ideas. For centuries London Bridge had been the only bridge over the Thames that the town possessed. All attempts to build other bridges were steadfastly opposed by merchants and shopkeepers, who feared injurious effects to their trade. A project to build a second bridge at Westminster in the reign of Charles II was abandoned in consequence of a petition from the citizens of London, and it was also through the efforts of the City Corporation that a proposal to erect a bridge at Putney was thrown out by the House of Commons in 1671.

The direct rate was once more revived by an Act of 1670, which this time gave the power to the Justices in Quarter Sessions. But owing to the suspicion with which a direct rate was generally regarded, the legislature's attempts to authorize the levying of one were always timid and tentative. The permission was usually accorded only for the limited space of three years; it was never ventured to make it permanent and compulsory, and no serious attempt was made to enforce it in practice, so that in all probability this legislation remained a

dead letter. To all intents and purposes, at any rate as regards the smaller and less important thoroughfares all over the country, the unwieldy system of Statute Labour remained the basis of such crude road-maintenance as was performed by the parishes, except where the device of presentment was resorted to. But this was a cumbersome and costly expedient, what with legal expenses and so forth, and nothing could alter the fact that the whole system was founded on principles which were already hopelessly out of date.

In practice the custom of accepting a cash payment in lieu of actual labour was everywhere on the increase. Although a fine should have been levied by the competent tribunal on all those who neglected their service, it appears that surveyors would often accept the amount of the fine, if proffered, without troubling to bring the case into Court. The work performed by the hired labourer was always immeasurably superior to that provided by the unenthusiastic amateurs of the parish. The inhabitants were not disposed to take Statute Labour seriously. The six days of labour were regarded as a kind of village holiday. Such inhabitants as did turn up performed practically no work on the roads, while the substitutes sent by those who did not come themselves were entirely useless, being no more than professional loiterers. It is not surprising that keen surveyors endeavoured as far as possible

to commute service for money payments and hire labour to perform the necessary work. A kind of official sanction was even given to this practice by the Act of 1670, which fixed the scale of payments to be made in default of service at 1s. 6d. for one man's labour, 3s. for a man and a horse, 10s. for two men and a cart, per day.

Curiously enough this system of commutation was never regarded in the same light as a definite highway rate, the very notion of which seems to have been extraordinarily distasteful to the agricultural mind. Successive attempts made by Parliament to enable parishes to levy a rate were received without enthusiasm. Very few parishes took advantage of the Act of 1691, which provided that where there was a lack of suitable road-material the surveyor could purchase it and then call upon the local justices to impose a rate to reimburse him, or of an Act of 1697 empowering the justices to levy a rate for the purchase of land to widen highways where necessary. Not that the device of presentment under the Common Law did not very often amount to the same thing, since a rate had to be levied to pay the fine imposed on the parish for neglecting to maintain its roads ; but it should be recognized that it was by custom rather than by actual legislation that the process of converting Statute Labour into a virtual rate was gradually evolved. It is interesting and instructive to observe

how futile were the efforts of the legislature to anticipate or hasten the normal development of highway administration, which remained in fact the creature of custom recognized by the Common Law and ultimately adopted or confirmed by Parliament.

The customs and regulations hitherto mentioned applied to the ordinary roads all over the country; but already during the reign of Charles I precisely those problems which are to-day exercising the minds of our administrators were forced upon the attention of Parliament. With the great increase of traffic from the beginning of the seventeenth century what may be termed the local use of the roads became an almost inconsiderable part of the aggregate traffic between important centres. Protests began to arise from those who were obliged to pay heavily for the maintenance of roads which were principally used by other people. They very reasonably urged that all ought to contribute to the maintenance and repair of the roads in proportion to the use they made of, or the convenience they derived from them. This point of view was perfectly just, for it was clear that the local inhabitants were quite unable to bear the cost of maintenance of those parts of the great highways for which they were liable. The upkeep of the local lanes and byways chiefly used for local intercommunication

was of course quite a different question, but it was felt that there should be a more equitable distribution of the burden of maintenance in the case of the main roads.

The necessity for providing adequate channels of communication between important industrial areas gradually brought the realization that the main arteries of traffic constituted a special question of national and not merely of local importance. This valuable truth was first grasped by the local rather than by the central authorities. In 1663 representations were made to Parliament by the justices of certain sparsely-populated districts in Hertford, Cambridge, and Huntingdon that the traffic along the Great North Road had assumed such proportions that the resources of the various parishes were quite inadequate to maintain the road. The remedy they suggested, namely, that a rate should be levied on all who used the road, was regarded as reasonable, and their petition resulted in the passing in 1663 of the first Turnpike Act, whereby the Justices in Quarter Sessions were empowered to erect gates and levy tolls at certain chosen points. This was a revolutionary measure, it being the first occasion on which the principle that the users of the road should bear the brunt of the expense for its upkeep had been officially recognized. It is true that isolated examples of tolls had occasionally occurred in mediæval times, but

they were mostly in the nature of municipal octrois or payments for the privilege of using privately erected bridges.

Much opposition was at first excited in the users of the road, and the tolls were to a great extent avoided, so that it looked as if the experiment were going to prove unsuccessful from the all-important financial point of view ; but with the passing of time the new principle began to gain support. Turnpike roads steadily increased in number during the latter half of the century, and little by little the important main roads which were proving too costly for local resources to maintain were brought into the system.

At the time when it was instituted and for long after the turnpike system was probably the best that could be devised. It would not have been practicable for the Government to have taken over all the roads and to have undertaken all work on them. This would have entailed a general road-tax which would undoubtedly have been regarded with great hostility. Those who paid road-taxes under the existing system had the satisfaction of knowing that their money was spent on the local roads which they themselves used. Moreover, the turnpike system afforded encouragement to private enterprise ; those who invested in the local turnpike trusts could feel that they were getting something for their money.

Once the principle of the toll had gained favour, special kinds of toll were occasionally resorted to. In 1673, for example, leave was asked to bring a bill before Parliament for an imposition on all coal brought into London, in order to raise the money for the better paving of the streets. This proposition brought forth representations from the neighbouring counties of Hertfordshire and Surrey that the imposition should not be levied on coal merely passing through the town and intended for their consumption, since they were serviceable to the city in supplying it with provisions.

The seventeenth century saw a steady increase in the amount of wheeled traffic in spite of the numerous attempts to retard its development. The implication of the failure of James I and Charles I to restrain the use of waggons by proclamation had been altogether lost, and in 1661 a further proclamation was issued on the ground that the existing regulations had been systematically disregarded. Of late, waggons had been drawn by as many as eight, nine, or ten horses, and had carried loads up to sixty or seventy hundredweight. In point of fact it was not always practicable to carry out the regulations that were made. It was, for example, found necessary to suspend prosecutions on that part of the Act for enlarging and repairing of highways which ordered that all wheels were to be four

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inches broad in the tire, ' representations being made that in many places the ruts cannot receive wheels of that breadth, and all waggons and carts could not at once be furnished with new wheels, so that intercourse would be stayed.'

A debate that took place on the damage done to the roads by waggons during the discussion on the Bill for the repair of Highways in 1669 is most illuminating. The suggestion was made that smaller two-wheeled carts should be used, and that the weight they carried should be strictly limited. One of the speakers, Colonel Birch, strongly deprecated this scheme. Two wheels, he said, spoilt the ways more than four, since the weight was less distributed. He proposed that any restriction that was made should apply to the number of animals that drew the waggons, as then the load would have to be proportionate to their drawing capacity. The most extraordinary speech was made by one Sir Courtney Poole, a dunder-headed die-hard, who was completely averse from any sort of progress. Waggons, he thought, should be prohibited altogether. The reasons he gave for advocating this course were, firstly, that waggons were detrimental to the breed of horses, less being used now than formerly; and secondly, that the use of waggons discouraged navigation, since before they came in most of the heavier goods were sent to London and other important towns by sea. He should have

realized that it was a little late in the day to suggest the total abolition of waggons, even if it had been true, as another speaker, Mr Swynfin, averred, that waggons had already been in use for the last thirty years, that is to say from about 1639. As a matter of fact they had been in ordinary use from the very beginning of the century. This same Mr Swynfin submitted that waggons had brought about a marked improvement in trade by cheapening transport. It was finally resolved by 113 votes to 67 that four-wheeled waggons should be allowed, and that each one might be drawn by five horses.

From the beginning of this century coaches were more widely used, though there was some opposition to them, owing to their luxury and display. Already at the end of Elizabeth's reign the multitude of coaches in London had become a grave nuisance, and in 1601 a Bill to restrain the excessive use of them was actually proposed in Parliament. About 1619 there was talk of levying a tax of forty pounds a year on all below a certain degree who kept a coach, 'the benefit to be bestowed on decayed captains.' This measure must have been aimed against the hackney-coach proprietors, since a private coach was at this time so expensive an item that few save the richest of noblemen could aspire to the possession of one.

Coaches had at first been drawn by two horses, then by four. The famous Duke of Buckingham

first began to have his coach drawn by six horses about the year 1619. This was regarded as an example of 'mastering pride' on his part, and the haughty Earl of Northumberland, not to be outdone by the upstart duke, promptly harnessed eight horses to his. These vehicles were enormous and cumbersome contrivances almost completely enclosed and as yet without windows.

Hackney-coaches were introduced in London about 1605, and thirty years later a certain Captain Bailey started a stand for them in the Strand. About this time the number of coaches in use had in the opinion of the authorities become so excessive that a committee of the Council for regulating coaches was appointed. As a result of its recommendations a proclamation was issued to restrain the multitude and promiscuous use of coaches about London and Westminster. 'Of late times the great number of hackney-coaches in London and Westminster, and the general use of coaches therein, grows to a great disturbance to the King, Queen, the nobility, and others of place and degree in their passage through the streets; the streets also are so pestered[1] and the pavements so broken up, that the common passage is hindered and made dangerous, and the prices of hay and provender rendered exceeding dear; his Majesty therefore

[1] 'Pestered' = inconveniently crowded, cf. Milton: 'Confined and pestered in this pinfold here.'

commands that no hackney-coach be used except to travel three miles out of London, and that no person shall go in a coach in the streets of London, except he keep four horses for his Majesty's service whenever his occasions shall require.'

Some justification is to be found for this measure in the facts that owing to the narrowness of the streets at this time excess of wheeled traffic caused considerable inconvenience and danger, and that an alternative method of transport was available in the sedan-chairs which had recently come in and were rightly considered as being more suited to conditions in London. But on the other hand the enforcement of the proclamation spelled ruin to the growing industry of letting out hackney-coaches on hire. In June, 1636, the distressed hackney-coachmen petitioned the King for relief, requesting that a hundred of them might be allowed to form a corporation and ply their trade in peace. They were willing to pay £500 a year for the privilege. Charles I rejected the petition and ordered the strict enforcement of the proclamation. But the petitioners were not disposed to abandon their suit without further struggle. In another communication they stated their case clearly and convincingly. They declared that there were not above one hundred genuine hackney-coachmen in London, and that therefore the congestion could not be laid down to them, but should rather be attributed to the

chandlers, innkeepers, and other tradesmen who, anxious to make extra profits, had usurped their functions and begun to let out coaches on hire. In a subsequent petition they actually raised their offers. They would agree never to allow their number to exceed one hundred and not to use more than two hundred horses. Moreover, they would not only pay the King £500 a year, but in addition would undertake to keep fifty men and horses ready for His Majesty's service. This petition was likewise disregarded.

Failing to obtain legitimate redress, the hackney-coachmen determined to ignore the proclamation, and gradually the number of coaches again increased until in 1639 the King thought it wiser to grant the requested licence for the Corporation of Coachmen.

At the Restoration the number of hackney-coaches having once more become excessive, a proclamation forbade them to stand in the streets for hire. Pepys relates with great glee that on the very day on which the proclamation came into force he had no difficulty in getting one to carry him home. In 1662 it was computed that there were some 2500 hackney-coaches plying for hire in the streets of London. Then Parliament thought it time to intervene, and did so, apparently with some success, for in April, 1663, it is recorded that the poor widows of hackney-coachmen petitioned for

some relief, as the Parliament had reduced the number of coaches to four hundred.

Stage-coaches appeared in England about 1640, and by the accession of Charles II a certain amount of passenger vehicles were running regularly between important towns, such as London and Exeter, and Chester and York. Scotland was ahead of England in this respect. As early as 1610 a certain Henry Andersen had obtained a royal patent to provide public coaches and run a service between Edinburgh and Leith.

Even the Commonwealth Government found it necessary to provide itself with a coach for use on state occasions, and in 1650 paid £100 for a coach upholstered in crimson velvet. On occasions when a greater number of coaches was required, as for instance for the reception of the Danish Ambassadors in 1652, when there was need for no less than thirty coaches, orders were given that gentlemen in town should be asked to lend theirs, and that the remainder should be made up by hiring hackney-coaches.

England was far behind the rest of Europe in the science and art of coach-building. The coach possessed by Charles II was not a very elegant vehicle, so the Chevalier de Gramont, an exiled Frenchman, resolved to present him with one 'which should partake of the ancient fashion, and likewise prove preferable to the modern.' He

accordingly caused a particularly graceful 'calash' with glass windows to be specially constructed in Paris. When it arrived it was the cause of considerable dissension between two of the King's favourites, Frances Stuart and Lady Castlemaine, who both wanted to be the first after the Queen to be seen driving in it in Hyde Park. By making the King certain promises—which, incidentally, she did not carry out—Frances Stuart carried the day.

Glass windows for coaches came in about 1663. 'The ladies were afraid of being shut up in them,' says Anthony Hamilton, 'they greatly preferred the pleasure of showing almost their whole persons to the conveniences of modern coaches.' It was certainly some time before people became accustomed to this new fashion. An amusing incident is related of Lady Peterborough, who, wishing to salute a friend when out in her new coach, forgot the window and thrust her head clean through the glass. By 1666 glass windows must have been in general use, for John Evelyn in his diary under date November 17th of that year tells of an accident he had: 'My chariott overturning on the steepe of Bexley Hill, wounded me in two places on the head; my son Jack being with me was like to have been worse cutt by the glasse; but I thanke God we both escaped without much hurt, tho' not without exceeding danger.'

Early in Charles II's reign measures were taken

to curb the disposition towards the too lavish decoration of coaches that had recently manifested itself. A proclamation forbade the gilding of coaches and chariots except such as were provided for the King and the Royal family. This proclamation was not too slavishly followed by wealthy noblemen. The Duke of Richmond when going Ambassador to Denmark ordered two coaches at a cost of £800. 'Two coaches w^th^ two setts of harnesse of six horses apeice w^th^ bridles Reynes & all things to them belonging & to have the Cyphers & Armes changed & his Graces to be put in the roome of them both in Coach & harnesse & where there is any defect in Guilding of ye great Coach or that it is sullied to be new guilt at the charge of the same W^m^ Richards, the Coaches w^ch^ are to be delivered are the great Velvet Coach w^th^ gold & silver fring inside & outside w^th^ seals & curtains & all things thereto belonging. The other a new Coach at M^r^ Brighams lined w^th^ gold Color & Crimson wrought velvet w^th^ seals & curtains & all things fitting for a Coach w^ch^ said coach is to have two shutters made on each side to put in the Roome of ye Glasses when it is needfull.'

Travelling by road in the England of the seventeenth century was still far from being a simple or pleasant matter. The use of coaches was for the most part confined to London, a few other big towns, and the main roads between them, and the

same applied to the light carriages and gigs which were introduced in the latter part of the century. It is true that some of the country gentlemen owned coaches, but they were rarely brought out except for important long journeys. On lesser occasions it was usual for both men and women to ride, the ladies ordinarily riding pillion behind their menfolk or a groom. It was thus that Jane Lane rode behind Charles II disguised as her serving-man in his adventurous flight after his defeat at Worcester.

The main reason why wheeled traffic did not spread more rapidly to the country was that the roads were not yet ready for it. So vile was their general condition that it was impossible to get up any speed on them. In the reign of Charles II the stage-coach journey from London to Oxford took two days, and that from London to Exeter five. The Dover Road, the main thoroughfare to the Continent, was so execrable, especially near London, that most people preferred to pass over as little of it as possible. Experienced travellers were wont to go by road from Dover to Gravesend thence to complete the journey by water. At this time threepence a mile was charged for a horse with fourpence a stage for a guide. A coach, strangely enough, was less expensive, the charge being one shilling for five miles ; but no doubt extra payments to coachmen, postilions, and the like made it in the end more expensive.

Conditions in Scotland were still worse. In 1678 six-horse coaches took six days to complete the journey from Edinburgh to Glasgow and back.

Certain efforts were made to improve matters both by modifying the structure of vehicles to enable them to withstand the jolting consequent upon the uneven nature of the road-surface and by experiments in better methods of road-repair. At first coaches had been constructed entirely of wood, but in 1625 Edward Knapp was granted a patent for the sole making of axle-trees of iron and springs of steel to render coaches stronger. Owing to the condition of the roads and the unwieldiness of the coaches one of the greatest dangers was their liability to overturn. Several requests for patents are on record from inventors who claimed to have designed coaches that would not overturn, including one from Charles de Rousseau, Knight of the Holy Roman Empire. This gentleman asserted that he could ' fabricate coaches with two wheels drawn by one horse laden with four persons of an extraordinary lightness, which cannot overturn, though the horse falls down, and that some may be made with one wheel, which will pass where a horse can, and turn with so great swiftness that a body being in shall shoot a pistol as well as if he was on horseback.'

The task of repairing the roads had become a serious problem in the seventeenth century, for it

was already realized that the primitive method of heaping stones and rubbish into the holes and ruts was not perhaps the best means attainable. Successive Governments usually showed themselves disposed to give a favourable hearing to anyone who had any ideas on the subject. Many petitions from road-menders to be allowed to demonstrate their methods are on record. In 1610 the great miniature painter, Nicholas Hillyard, then lying, as he thought, on the point of death, though as a matter of fact he survived for another nine years, wrote to Lord Salisbury that he had resolved before he died to recommend the suit of William Goldsmith, labourer, who had discovered a new mode of repairing highways at half the usual cost. Nine years later one John Shotbolt was granted a licence for twenty-one years to repair the highways by the means of instruments invented by him. In 1656 certain gentlemen petitioned the Protector to be allowed to demonstrate a new and cheap way they had found for mending the highways 'so that they shall not need repair for many years, nor be injured by the weight of carriages, and thus the parish taxes will be lessened, and travellers can go further in the day.' It is, however, improbable that such methods, even if successful, were extensively applied. In 1664 one Abraham Forester petitioned for a patent for his new invention to mend highways and pave streets, declaring that the Commissioners had

signified their approval of the trial he had made near St James's Palace. The King recommended the inventor to Parliament, which proceeded no further in the matter. Such in all probability was the fate of most such projects.

Difficult and uncomfortable in every respect as was travelling in the seventeenth century, the worst peril of the road was undoubtedly the prevalence of footpads, robbers, and highwaymen. The insecurity of the roads during James I's reign became so notorious that in 1623 the King himself felt compelled to give serious attention to the question. He informed his Council that he was much concerned about highway robberies. He thought it one of his chief duties to secure the safety of the highways, and therefore urged the Council to consider the problem. He suggested that watches should be provided in and about London, and that the Lord Mayor and City authorities should be consulted about taking measures for the restraint and punishment of vagabonds. 'The regulations,' he added, 'should extend through the kingdom, as the vagrants driven from London will be in danger of spreading mischief elsewhere.'

Owing to the great number of travellers in the immediate vicinity of London the favourite haunts of highwaymen were the lonelier spots on the main roads out of town. In 1636 so much alarm had

been caused by the frequency of highway robberies on Hounslow Heath and the roads about Staines that the Council ordered that a special campaign should be carried out against the robbers in those parts. The method advocated was that the highwaymen should be entrapped by sending out decoy horsemen of affluent appearance, followed at a suitable distance by armed patrols.

In the next year or so appeared a mighty hunter of highwaymen in the person of Captain John Allen, owing to whose efforts five of the most notorious highwaymen were captured and executed, while many others whom he denounced fled through fear of him. An investigation of his claims by no less a person than Sir John Bramston, Lord Chief-Justice of the King's Bench, proved that they had not been exaggerated. The learned judge reported that as a result of his activities several counties had been in quiet ever since, 'until now of late some that fled have returned again, and cannot yet be apprehended.' Their return was probably due to the fact that the redoubtable captain had himself gone abroad.

As was inevitable in the aftermath of any war in those days highway robberies became rife after the close of hostilities in the Civil War. Stern measures had to be devised to suppress them. In October, 1649, Parliament instructed the Council to 'consider an effectual means to prevent the

robberies, murders, and outrages committed as well upon the highways as in houses and other places, and give an account thereof to Parliament.'

The orders issued by the Council were elaborate and comprehensive, and if properly carried out must have been effective. Troops were to secure all the roads within fifty miles of London. Ten men out of every troop of the two regiments on guard in London and Westminster were to be sent out daily to patrol the roads round London, and mounted guides familiar with the country were to keep in touch with them. All innkeepers were to send in to the officers in command of these parties a nightly account of all their guests, with a clear description of their horses.

The immediate result of unsuccessful risings, whether Royalist or otherwise, under the Commonwealth was an increase in highway robberies, since the defeated soldiery took to the road. A letter to the Commissioners for the Government of the Army from a cavalry commander in January, 1660, stated that 'his troop had been on hard duty for eight weeks to preserve the peace of this country which was much disturbed by highway robbers, being considerable parties and supposed to be of the old enemy, they riding in the posture of soldiers.'

The gentlemen of the road were very numerous and active during the reign of Charles II. In 1667 matters had got to such a pitch that a new

office of Marshal of England was erected with a fee of £50 a month and power to seize and examine all suspected persons, and keep the road clear of highwaymen. Recourse was also had to informers, one of whom, Thomas Martin, who had been ordered by the Lord Chief-Justice to apprehend the highwaymen of England 'as being very intimate with most of them,' was very nearly caught in his own noose. Some of his erstwhile associates trumped up against him a charge of stealing thirty pounds, and he was condemned to death. Fortunately for him he was able to prove his innocence at the last moment and so escaped execution.

The most famous of all seventeenth-century highwaymen was Claude Duval (1643-1670). A Frenchman by birth, he came over to England at the Restoration in the train of the Duke of Richmond. The daring of his robberies was equalled only by the courtesy and gallantry with which he accompanied all his exploits. A celebrated tale is told of his having stopped a coach in which were a husband and wife and £400. The lady was young and fair and the highwayman young and impressionable. He invited her to step a coranto with him by the roadside while the husband looked on. Duval charged him a paltry £100 for the privilege of assisting at this entertainment, leaving the rest of the money as a mark of the pleasure the dance had given him. Such exquisitely polished be-

haviour gained him the romantic esteem of the opposite sex, and when he was at last caught and condemned many were the great ladies who pleaded for his life. But though Charles II ever loved a merry rogue he had once solemnly sworn that Duval should not escape if ever he were laid by the heels, and he would not break his royal word. Duval was executed at Tyburn amid the sobbing of his admirers. He was buried in Covent Garden Church, and an appropriate epitaph was written upon him, beginning :

Here lies Du Vall : Reader, if male thou art
Look to thy purse; if female, to thy heart.

Duval had possibly been captured as a result of the intensive campaign against highwaymen started in 1668 by Sir William Morton, Justice of the King's Bench. At the time when he first undertook the prosecution of the highwaymen, said Morton, they had so infested the roads that scarce any that travelled by coach or on horseback that were worth robbing could escape their clutches. Four years later he proudly asserted that out of a hundred only six or seven still remained at large.

This estimable state of affairs did not last very long. About 1677 there were continued complaints of robberies of coaches and waggons. The gentlemen of the Queen's troop of Horse Guards were commissioned to use all lawful means for the taking

of highwaymen, and in the following year the Keeper of Newgate Gaol was ordered to ride about the highways and apprehend robbers. In 1680 a reward of £10 was offered for every highwayman captured.

Similar measures were adopted by Charles II's successors. The highwaymen who infested the roads under William III were no respecters of persons. 'The Duke of Hamilton in his journey for Scotland was set upon by some highwaymen and robbed to the value of £2000 in money and jewels, in which was his "George."'

Proclamations against highwaymen followed each other in rapid succession. Orders were given to the troops when they were in quarters to patrol the roads for preventing the frequent robberies which were committed, and the Keeper of Newgate Gaol was offered an additional inducement to put new energy into his pursuit by being empowered 'to retain all the goods found on felons at their arrest for his own behoof.' If this permission extended as far as stolen goods, it seems to have been somewhat hard on the rightful owners.

The dour William was exceptionally stern even for him in his attitude towards the light-fingered gentry of the road. When requested to reprieve a highwayman called Holland who had been condemned to death, 'His Majesty was pleased to say at dinner that he would not pardon Holland, or any other highwayman whatsoever.'

CHAPTER IV

THE EIGHTEENTH CENTURY

The eighteenth century was pre-eminently the era of turnpike roads. The year 1706 and the years following saw the creation of a succession of new statutory bodies with power to levy tolls for the maintenance of particular stretches of important road. Eventually there were eleven hundred of these turnpike trusts administering some 2300 miles of road.

Powers were invariably granted to the trustees for a limited term of years, usually twenty-one, at the end of which time a renewal was applied for and granted almost of course. Thus a new virtually permanent local authority arose independent of County, Borough, Parish, or Manor. This does not mean that Statute Labour was abolished on turnpike roads ; the work on the roads undertaken by the trusts was deemed to be additional to their ordinary maintenance. In practice, from about 1716 onwards the turnpike surveyor could often agree with the parishes concerned for a lump sum in lieu of Statute Labour ; but this payment had to be regarded as a composition and not as a

rate. Turnpike trustees were never on any occasion empowered to levy a direct rate.

The resources of the turnpike trusts were derived from tolls imposed upon all vehicles, horsemen, and cattle passing along the road. Toll-houses, bars, gates, and turnpikes were erected at suitable intervals. The original turnpike consisted of a simple bar supported on two posts placed on opposite sides of the road, but as time went on more elaborate gates were set up. The keepers of the turnpike appear to have been armed. Sir Nathaniel Wraxall relates that on one occasion a party of very distinguished gentlemen, including Lord Chancellor Thurlow and William Pitt, having dined extremely well at Addiscombe, set off to ride home to Wimbledon. The turnpike-gate between Tooting and Streatham happened to be open as they approached, and, being very merry after their recent potations, they resolved to make a dash through the turnpike without paying toll. As they passed through, the turnpikeman discharged his blunderbuss at them, but fortunately without hitting anyone.

The prices of tolls in the eighteenth century varied from one penny for a horse to sixpence for carts, waggons, and stage-coaches. Certain exemptions were allowed. The post and the army on the march paid no dues, while local workmen and labourers on foot were not expected to make any payment.

The reason why the trusts were created for a limited period was that it was originally intended to remove the toll-gates as soon as the roads should be in sufficiently good condition to justify this course. This happy state of affairs unfortunately never came to pass. It was soon found impossible to regard turnpikes as no more than a temporary expedient; on the contrary the powers of the trustees were renewed almost automatically and often even augmented.

Between 1720 and 1730 seventy-one new trusts were established. Most of these were created by special Acts of local application; but in addition many general Acts were passed to deal with the administration of all turnpike roads.

The additional burden of taxation imposed on all users of the road by the institution of the turnpike system was productive of protests and sometimes even of riots. In the reign of George II it was found necessary as a deterrent to make it a felony to pull down a toll-gate. For some reason or other the turnpike system seemed to run against the prejudices of the people, and there was a widely-held belief that the steady increase of turnpikes was part of a secret design on the part of the Government to enslave the people and deprive them of their liberty. The connection is not very obvious, so that it is reasonable to suppose that the impression was caused by the playing of agitators

upon popular credulity; but the very rumour raised sufficient alarm among the ignorant to produce riots and wholesale demolition of turnpikes in various parts of the country, notably in Yorkshire, Somersetshire, and Gloucestershire. Feeling in this matter rose to such a height about 1749 that troops actually had to be quartered in some districts to repress the disturbances. The Government, however, resolutely refused to be intimidated, and the General Turnpike Act of 1755 rendered the construction of turnpike roads compulsory wherever they were needed all over the country. The difficulty was to find out where they were really demanded. Unfortunately there was no centralized policy in regard to the creation of turnpikes; whether they existed or not was to a great extent dependent on local enterprise and enlightenment, and also to the presence or absence of obstruction on the part of selfish landowners.

The bulk of turnpike legislation was stupendous. Four hundred and fifty-two Turnpike Acts were passed between 1760 and 1764, and one thousand and sixty-two between 1785 and 1809. Too often legislation was framed rather in the interest of the turnpike trustees than in that of the users of the road. This was so even in the case of the consolidating Acts of 1766 and 1773, the latter of which remained virtually the basis of turnpike administration right up to 1822. The trustees were vested with

too much power, especially on the financial side. Although they had unlimited power to mortgage or borrow, there was no examination or auditing of their accounts. This immunity afforded golden opportunities for jobbery in the purchase of materials, connivance at inferior work, corruption in the levying of the tolls and in granting exemptions, fraudulent compounding for nominal sums, and various other kinds of dishonesty.

The fact that it was almost impossible to keep any control over the accounts led to the practice of farming the toll-gates. Parliament endeavoured to ensure that this should be properly done by enacting in 1773 that the privilege should always be put up to auction. But rings formed by professional toll-farmers effectively counteracted the excellent intentions of the legislature.

Another defect of the system was that it was exceedingly easy for the turnpike trustees to evade even their main responsibilities, because there was no method of bringing them to book for negligence. When a turnpike road became impassable the parishes concerned could still be indicted, but no proceedings could be taken against the turnpike authorities, an anomaly which was manifestly unfair.

So much for the faults of the turnpike system ; but despite all its shortcomings there can be little doubt that the comparative superiority of the English roads originated from it. Certainly the

mileage of usable roads was thereby increased, and where there was enlightenment among the trustees, which did happen occasionally, there were considerable improvements in widening and straightening existing roads, modifying gradients, and sometimes even in the construction of new roads and bridges. That this was appreciated at the time is shown by the circumstance that towards the end of the century opposition to the turnpikes had almost entirely disappeared. The poor were tranquil because only a small proportion of the dues were paid by them, pedestrians of the labouring classes being exempted from all payments ; the rich were contented because the trustees made a practice of co-opting to their body all influential local celebrities, especially those who otherwise might be disposed to criticize; and, moreover, there was general relief at the diminution of the exigencies of Statute Labour.

It is doubtful whether any other system would at this time have been feasible. The ideal of a centralized system would have been unattainable in the eighteenth century owing to the entire lack of comprehension of the magnitude of the problem, while, on the other hand, a purely local solution, such as a local land-tax, would also have failed, because it would have been impossible to maintain the position that the local landowners were the chief users of the local roads. On the whole, there-

fore, the mongrel turnpike system was preferable to any thoroughbred national or local scheme.

The condition of the roads, though no doubt somewhat improved since the introduction of the turnpike system, was still very far from satisfactory throughout the eighteenth century. The roads outside the turnpike system remained in much the same state as they had been in during the preceding century, while even on turnpike roads, although the money received from tolls appears to have amounted to more than double the sum that was required for adequate maintenance, there was a decided tendency on the part of the turnpike commissioners to put the toll-money into their own pockets instead of spending it on upkeep and repairs.

Contemporary accounts abound to prove the wretched state of the highways. When King Charles III of Spain came to visit England in 1702 Prince George of Denmark, husband of Queen Anne, went to meet him at Petworth. The road from Windsor was almost impassable and several times some of the carriages got stuck in the mud or overturned into the ditch whence they could be extricated only with the help of the neighbouring peasantry. The fact that the last nine miles of the journey took over six hours to accomplish gives some idea of the rate of progress attainable.

It was in the winter months, of course, that the roads were at their worst ; but winter in England cannot by any stretch of the imagination be called brief. No less an authority than the Turnpike Act of 1717 declared that the roads about Islington and Highgate, that is to say in the immediate neighbourhood of the capital, were very ruinous and impassable for the space of five months in the year.

In 1736 Lord Hervey complained that 'the road between the court suburb of Kensington and Piccadilly is grown so infamously bad that we live here in the same solitude as we would do if cast on a rock in the middle of the ocean, and all the Londoners tell us that there is between them and us an impassable gulf of mud.'

Three years later travellers still more exalted had reason to discover how bad the roads could be. When King George II and Queen Charlotte were journeying from St James's Palace to Kew, the condition of the main road between Fulham and Hammersmith was so founderous that the royal carriage was overturned and His Majesty and his illustrious consort were incontinently deposited in the mud, where, moreover, they were obliged to spend the night, as the state of the highway made it impossible to proceed any further.

In the depths of the country the roads were still worse. Daniel Defoe saw a lady of quality in

the neighbourhood of Lewes being dragged to church in a coach drawn by six oxen. 'Nor was it done,' he says, 'in frolic or humour, but mere necessity, the way being so stiff and deep that no horses could go in it.'

Poor as were the turnpike roads in the eighteenth century, they were, nevertheless, the only roads that could properly be dignified with the name in its modern sense; where they did not exist the so-called main roads usually consisted of no more than a narrow causeway with unmade soft road on either side of it. The maps in Ogilby's road-books show that even in the middle of this century the roads in remote rural districts, especially in the North of England, were still little more than tracks, and remained wholly unenclosed.

Commercial and industrial development and the consequent necessity for the provision of speedier and more effective means of communication brought the highway problem into prominence during the whole of this century. The users of wheeled traffic found the condition of the roads quite inadequate to their needs, and soon became powerful enough to make their voices heard in Parliament on the subject. They imagined that they had a grievance against the parishes for neglecting to raise their roads to the required new standard, and demanded the new kind of road, without seeing why they should pay anything towards its construction or

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maintenance. The parishes on the other hand took the view that their roads were good enough for their own needs and that if other parties wished them improved they should bear the additional expense.

The intervention of Parliament did not help to ease the situation. In the matter of roads the legislators of the period got hold of the wrong end of the stick and clung to it with grim tenacity. Their policy was from first to last obstructive rather than constructive. Faced with entirely new traffic demands, instead of trying to meet them by improving the existing roads, constructing new ones, and revising the whole system of upkeep and administration in the light of the changed circumstances, they deliberately endeavoured to hamper the evolution of more efficient communications. The enormous amount of heavy wheeled traffic that had recently come upon the roads certainly gave cause for alarm; but it was plain that it had come to stay, and that its volume was likely to increase rather than decrease in the near future. The legislature should have recognized frankly that the only course open to it was to bring the roads up to date. But far from aiming at providing new sorts of roads to take the new heavy traffic, it attempted rather to reduce the traffic to the level of the existing roads by a whole series of futile regulations designed to restrict the use of heavy

vehicles, to limit the number of draught-animals that might be attached to any waggon, and to control the construction of vehicles so that they would inflict the minimum of wear and tear on the road surface. Many of these rules were incompatible one with another, when not flatly contradictory.

In regard to the problem of the form and construction of waggon-wheels there existed two distinct schools of thought, the one favouring broad wheels on heavy waggons, the other narrow wheels on a lighter type of vehicle. One ingenious gentleman with 'broad' views even suggested the use of rollers instead of wheels, claiming that the heavier the vehicular traffic became the more the roads would benefit, since the very passing of the carriages would level the surface. Sometimes one school had the upper hand, sometimes the other; but the party advocating broad wheels finally triumphed in 1754, legislation from that point tending to discourage the use of narrow wheels as detrimental to the road surface.

From 1741 onwards many Acts were passed with the object of protecting the roads from wheeled traffic, which was regarded as an unwelcome intruder to be discouraged by all possible means. As coach-construction improved, coaches became lighter and less unwieldy, but waggons and carts for the transport of goods continued to grow heavier

and heavier. An Act of 1745 made the usual attempt to counteract this tendency by limiting the number of draught-animals to four horses for a waggon and three for a cart; but this measure proved insufficient and the alternative scheme was adopted of erecting weighing-machines at the toll-gates and imposing almost prohibitive tolls on excessive weights. After the triumph of the advocates of the broad wheel narrow wheels were penalized and double rates had to be paid at the turnpikes for vehicles having them.

Innumerable Acts of Parliament were passed relating to the construction, maintenance, and repair of the highways, but to very little purpose. The only material change in the condition of the roads was that produced by the climate, which converted them from dust-pits in the summer to pools of mud in the winter.

In the matter of highways the eighteenth century was a period of ineffectual floundering on the part of Parliament and the public, but it cannot be advanced as an excuse that there was any lack of criticisms and constructive suggestions on the part of enlightened observers, many of whom on the contrary were exceedingly and persistently vociferous. Prominent among these would-be road-reformers was Arthur Young, who never ceased to lash the road authorities with whipping words,

characterizing the highways as 'ponds of liquid dirt,' and applying epithets little more flattering to those who were supposed to keep them in repair. In spite of his declaration that 'he knew not in the whole range of language terms sufficiently expressive' to describe the condition of the turnpike roads, he nevertheless succeeded in finding a comparatively large range of vigorous terms in which to vent his incessant spleen. His description of the road between Telford and Oxford is a fair example of his trenchant style. 'Called by a vile prostitution of language a turnpike, but christened, I apprehend, by people who do not know what a road is, it is all of chalk stone, of which everywhere loose ones are rolling about to lame horses. It is full of holes, and the ruts very deep; and withal so narrow, that I with great difficulty got my chair out of the way of the Witney waggons and various machines which are perpetually passing. The tolls are very dear and vilely unreasonable, considering the badness of the roads.' Practically every road he passed over was stigmatized by him as 'barbarous,' 'terrible,' 'infernal,' 'execrable,' or 'infamous,' and one road in particular aroused his unmitigated rage. 'Of all the cursed roads that ever disgraced this kingdom in the very ages of barbarism, none ever equalled that from Billericay to the King's Head at Tilbury. It is for near 12 miles so narrow that a mouse cannot pass by any carriage. I saw a

fellow creep under his waggon to assist me to lift, if possible, my chaise over a hedge. The ruts are of an incredible depth, and a pavement of diamonds might as well be fought for as a quarter. The trees everywhere overgrow the road, so that it is totally impervious to the sun except at a few places. And to add to all the infamous circumstances which concur to plague a traveller, I must not forget the eternally meeting with chalk waggons, themselves frequently stuck fast till a collection of them are in the same situation, and twenty or thirty horses may be tacked to each to draw them out one by one. After this description will you ?—can you ?—believe me, when I tell you that a turnpike was much solicited by some gentleman to lead from Chelmsford to the ferry at Tilbury Fort, but opposed by the Bruins of this country, whose horses are torn in pieces with bringing chalk through these vile roads.'

A less violent but none the less convincing critic was Robert Phillips who, in his 'Dissertation concerning the present state of the high roads of England, especially of those near London,' read before the Royal Society in 1736, gave a very lucid and comprehensive account of the ignorant and slovenly methods employed in the so-called maintenance of the roads.

The question of maintenance had now assumed great importance; in spite of, or perhaps even because of the continuous stream of amending

Highway Acts passed in the course of the century the exact state of the law regarding maintenance always remained a mystery. Although no actual alteration was made in the principle of the Statute Labour system, the change in the value of money hastened on the already growing practice of commutation. It now actually paid to provide the fine rather than the labour, and in consequence custom in many districts converted the Statute Duty into a regular rate. This change, though admittedly due to custom and not to direct legislation, was officially recognized and regularized by the General Highway Acts of 1766 and 1773, which fixed elaborate scales of money payments as *alternatives* to service in person. While the practice of imposing Highway rates, which from first to last were limited to sixpence or at most a shilling in the pound, showed a decided increase in boroughs, the system of Statute Labour rendered partly in person and partly through commuted fines was still obstinately clung to in rural districts.

The justices were reluctant to acknowledge that the responsibility for the management and maintenance of the roads rested at all upon their shoulders, and were inclined to neglect their duties. In spite of the wide discretionary powers granted to them under the Highway Acts they seemed unwilling to attempt to institute any improvements of their own volition, but preferred to wait until reiterated com-

plaints forced them to take some form of action. While if the surveyor applied to them to impose a highway rate they would generally acquiesce readily enough, it does not appear that they ever took the initiative in the matter. More often they would wait until the roads became positively impassable, when they would proceed by way of presentment or indictment of the parishes.

It was at the very beginning of the century that one of the most remarkable and far-sighted pronouncements on the whole road problem was made in his 'Essay on Charity and Charity Schools' by that paradoxical writer, Bernard Mandeville, author of 'The Fable of the Bees.' Even now, *mutatis mutandis*, there is much in his remarks worth the consideration of those interested in the present and future of roads.

'There is above Three or Four Hundred Years' Work, for a Hundred Thousand Poor more than we have in this Island. To make every part of it Useful, and the whole thoroughly Inhabited, many Rivers are to be made Navigable, Canals to be cut in Hundreds of Places. Some Lands are to be drain'd and secured from Inundations for the Future: Abundance of barren Soil is to be made fertile, and Thousands of Acres rendered more beneficial by being made more accessible. *Dii Laboribus omnia vendunt.* There is no difficulty of this Nature, that Labour and Patience cannot surmount.

The highest Mountains may be thrown into their Valleys that stand ready to receive them, and Bridges might be laid where now we would not dare to think of it. Let us look back on the Stupendious Works of the Romans, more especially their Highways and Aqueducts. Let us consider in one view the vast extent of several of their Roads, how substantial they made them, and what duration they have been of, and in another a poor Traveller that at every Ten Miles end is stop'd by a Turnpike, and dunn'd for a Penny for mending the Roads in the Summer, with what every Body knows will be Dirt before the Winter that succeeds it is expired.

"The Conveniency of the Publick ought ever to be the Publick Care, and no Private Interest of a Town or a Whole County should ever hinder the Execution of a Project or Contrivance that would manifestly tend to the Improvenent of the Whole; and every Member of the Legislature, who knows his Duty and would chuse, rather to act like a wise Man, than curry Favour with his Neighbours, will prefer the least Benefit accruing to the whole Kingdom to the most visible Advantage of the Place he serves for.

"We have Materials of our own, and want neither Stone nor Timber to do any thing, and was the Money that People give uncompell'd to Beggars who don't deserve it, and what every Housekeeper is obliged to pay to the Poor of his Parish that is otherwise employ'd or ill applied, to be put together every Year, it would

make a sufficient Fund to keep a great many Thousands at work. I don't say this because I think it practicable, but only to shew that we have Money enough to spare to employ vast multitudes of Labourers: neither should we want so much for it as we perhaps might imagine. When it is taken for granted that a Soldier, whose Strength and Vigour is to be kept up at least as much as any Body's, can Live upon Six Pence a Day, I can't conceive the Necessity of giving the greatest part of the Year Sixteen and Eighteen Pence to a Day Labourer.

"The Fearful and Cautious People that are ever Jealous of their Liberty, I know will cry out, that where the Multitudes I speak of should be kept in constant Pay, Property and Privileges would be precarious. But they might be answer'd, that sure means might be found out, and such Regulations made, as to the Hands in which to trust the management and direction of these Labourers; that it would be impossible for the Prince or any Body else to make an ill Use of their numbers.

"What I have said in the Four or Five last Paragraphs, I foresee will with abundance of Scorn be Laugh'd at by many of my Readers, and at best be call'd Building Castles in the Air; but whether that is my Fault or theirs is a Question. When the Publick Spirit has left a Nation, they not only lose their Patience with it, and all thoughts of Perseverance, but become likewise so narrow-soul'd, that it is a pain for them even to think on things that are of uncommon extent

or require great length of Time; and whatever is Noble or Sublime in such Conjunctures is counted Chimerical."

Although towards the end of the eighteenth century considerable engineering skill was applied to the improvement of communications, little if any of it was devoted to road-construction. In the endeavour to facilitate the quicker and cheaper transportation of goods, civil engineers showed themselves inclined to turn their attention to water rather than to land. During the century there was not only a vast improvement in inland navigation, but also a marked advance in the facilities provided for external communication by sea, as exemplified in the construction of numerous new docks and harbour-works. The most outstanding examples of the improvement in inland navigation were provided by the canals constructed by Brindley for the Duke of Bridgewater, and by Thomas Telford's work on the Ellesmere and Shrewsbury canals. These canals undoubtedly relieved the roads of a considerable portion of the heavier traffic.

There was also a notable revival in bridge-building, an art which had been sadly neglected since mediæval times. The best-known bridge-builders in the eighteenth century were the Welshman, Edwards, John Smeaton, and that great artist, John Rennie, the designer of the incomparable Waterloo Bridge, which was, of course, one of his

later works. Rennie was the first modern engineer to build single-arch bridges with a level roadway. Before his time the loftiness of the arches had made the ascent and descent so steep as sometimes to be almost precipitous.

The bridges on the great highways were maintained by the county, but all other bridges on the lesser roads had to be kept in repair by the parishes in which they were situated. This was so even when, as often occurred, the bridge had been built with the aid of a grant made from county funds. The responsibility of the county did not, however, entirely cease as soon as the bridge had been built, since, if a bridge was allowed to fall into such disrepair that recourse was had to the process of indictment, the county, not the parish concerned, was indicted.

The growth of wheeled traffic led to a demand for better bridges, those made of wood being no longer strong enough to bear the weight of waggons and coaches. New bridges were now, as in the Middle Ages, not infrequently built through private munificence, but it was legally decided that if a private individual built a bridge, and it could be satisfactorily proved that it had become useful to the county in general, then the onus of maintenance and repair should fall on the county authorities. Thus as the bridges improved, the greater part of them became chargeable on the county, with the

exception of the little bridges over streams in lanes and byways which were still maintained by the parishes, those within the confines of a town or borough for which the municipal authorities were responsible, and those owned by the turnpike trusts and by Statutory Bridge Companies. These last were invariably toll-bridges administered in a manner somewhat similar to that of the turnpike system, save that the powers of the Commissioners were not limited in duration, and that pedestrians were not exempted from tolls. The management was, needless to say, equally corrupt and inefficient.

It was not until the middle of the eighteenth century that the capital obtained the second bridge that had for so long been needed. Westminster Bridge was begun in 1738 and finished in 1750. Ten years later the construction of yet a third bridge, that at Blackfriars, was put in hand. In this case the work took nine years to complete.

Englishmen of the eighteenth century seemed to be singularly unaware of the importance of a good highway system. The attention given to the bridges was not extended to the roads. Even in London itself the streets were inadequately paved, while in the country the science of road-making was scarcely understood at all. One of the factors that made for bad roads was that a parish was obliged to keep up its roads only to their immemorial standard and

was not expected to improve them. It was the absolute necessity for the improvement of certain roads that had been the chief reason for introducing the turnpike system, which justly placed some part of the burden on the traffic.

Too often when it was decided to create a turnpike road, instead of an entirely new road being constructed the ancient pack-horse tracks were simply converted. These old roads in most cases were unsuitable for the purpose, because the gradients were as a rule far too steep for wheeled traffic. In the days when the roads were nothing more than tracks of soft earth there had been a natural tendency to keep them as far as possible up in the hills and to avoid low-lying ground where the track would become sodden in the winter. With the better constructed turnpike roads it should have been unnecessary to adopt this policy when a low road would have been more direct.

The idea that road-making needed any special knowledge or training was very slow in gaining ground. There were no professional road-engineers in the eighteenth century. The construction of roads was regarded as a task far below the notice of civil engineers, who at any rate were none too plentiful at this period. No attempt was made to regard roads from a scientific point of view and to apply scientific principles to road-making; there was no taking of levels, no tracing of new lines, no

cutting through hills or forming of embankments to avoid steep gradients, no attention to the question of securing uniform breadth and convexity, nor to that of endeavouring to discover the appropriate surface. The whole science of road-building as understood and applied in the eighteenth century was the heaping of gravel on the top of the existing mud. By repair and maintenance was understood the heaping of more gravel where the mud had become unduly triumphant. Otherwise no improvement could be expected save perhaps an occasional straightening out of an awkward bit of winding road. So little was understood of road repair that sometimes when a road was 'repaired,' the sides were made higher than the middle! The surface being usually heaped on to a bed formed of the wrong material, the formation of ruts seemed to be positively invited, and as the idea of drainage never seems to have entered into the head of any road-maker, the ruts were usually filled with water. Arthur Young actually measured some as much as four feet deep on turnpike roads.

One genuinely serious attempt at road-construction on scientific principles did actually come to pass in 1768 when, owing to the indefatigable efforts of Joseph Wright, the worthy proprietor of the 'King's Head' at Newark, an elevated road across the hitherto impassable valley of the Trent between Markham and Newark was constructed at

a cost of £12,000 by the great engineer Smeaton. But this was an isolated incident both in the history of roads and in Smeaton's own career. The famous builder of the Eddystone Lighthouse rarely stooped to such work as this, but more generally devoted his energies to drainage schemes and harbour-works.

No special skill was expected or sought after in those to whom the work of constructing and repairing the roads was entrusted. Almost the only road-maker worthy of the name during the eighteenth century in England was John Metcalf, popularly known as 'Blind Jack of Knaresborough.' Born of humble parentage in 1717, this extraordinary and fascinating character led a most varied and romantic existence. Although he became blind through smallpox at the age of six, he steadfastly refused to recognize this affliction as a disability. He went in for many forms of sport, boxing, wrestling, and playing bowls. He could swim like a fish and was a magnificent horseman, frequently riding to hounds. He knew every inch of the country round his native town and could act as a guide in the winding roads of the neighbourhood. After starting as a musician playing the violin at local assemblies, he adopted a variety of other callings, becoming in turn a soldier during the '45 Rebellion, a merchant, a waggoner, and a horse-dealer. But it was not until he was over forty

that he received a chance to display his natural gifts for road-making. He was far-sighted enough to see that an immense improvement in the roads was eventually inevitable, and that there was money to be earned and recognition to be gained by anyone who should take the trouble to give the matter fresh and unprejudiced attention. His opportunity came when in 1765 an Act was passed for the construction of a turnpike road between Harrogate and Boroughbridge. He immediately approached the contractor and succeeded in persuading him to entrust to him the making of three miles of road. Although he had had no prior training, his natural gifts stood him in such good stead that his portion of the road was not only more quickly but also more efficiently constructed than any other part.

Metcalf's success on this occasion led to his being called upon to construct further roads. The highways he laid out in Yorkshire and Lancashire did much to open up the North Country and prepare the way for the Industrial Revolution which was to change the character of that part of England. Hitherto it had been perhaps the worst served of all. Even the Great North Road left much to be desired as it went further north. For about 110 miles from London there were tolerable turnpike roads, tolerable that is to say in view of what succeeded them, for thenceforward the road degenerated into a mere pack-horse track. The Duke of Cumberland on

his way to Scotland in 1746 did succeed with great difficulty in getting as far as Durham in a coach and six, but he could not get a yard further, and was obliged to take horse for the rest of the way.

Blind Jack's road-making activities extended as far as Cheshire and Derbyshire. Altogether he constructed or reconstructed some 180 miles of road, including all the necessary bridges, retaining-walls, culverts, and embankments. Truly an amazing achievement for a man who not only had had no training at all, but also laboured under one of the most hampering disabilities with which humankind can be afflicted! When he offered to build the bridge at Boroughbridge in Yorkshire he had neither built nor even designed a bridge before, but he so impressed the trustees with his apparent knowledge and experience that they entrusted the task to him with all confidence—which, in the event, proved to have been wholly justified. These works of his, constructed with a knowledge that was born of instinct rather than experience, lasted very well. The reason why his merits as a pioneer of road-construction have not received the full measure of recognition that is their due is that when he had laid out his roads the administration and maintenance of them fell as a matter of course on the turnpike trustees, who after the manner of their kind allowed them to fall into

ruin through lack of proper care. Many of his bridges remain to attest that his work possesses permanent value.

Perhaps the most individual achievements of Metcalf's career were the roads he constructed in boggy country. Instead of skirting marshy ground as had always been done before, he devised a special kind of road to go straight across it, laying his stone and gravel surface on a foundation made of bundles of heather and ling, and thus forming a sort of floating causeway.

At the beginning of the century the ordinary roads in Scotland, where they existed at all, were in much the same parlous condition as those in England. But as regards main roads, political and military considerations forced on a sudden and considerable improvement. It was in the Highlands of Scotland that the most fervent sympathy with the exiled House of Stuart survived, and it was therefore essential for the Government to provide better communications in order to keep the country in permanent subjection. The Disarming Act was not proving very effective, owing to the inaccessibility of the Highlands, and it was speedily realized that only by opening them up would it be possible to prevent revolts from being hatched there. Accordingly General Wade was entrusted with the formation of a number of new strategic roads. The

work was started in 1726 and performed entirely by soldiers, who received extra pay for their unusual task.

Some 1500 miles of road were constructed under Wade's superintendence. His roads were somewhat analogous to the ancient roads of the Romans in at least two respects: the one that they were made and maintained by military labour; the other that convenience was subordinated to directness. Like the old roads, they went straight as an arrow over hills instead of up the sides by easier gradients. On the other hand, when they came to the valleys they lost their directness, since the building of bridges was avoided as much as possible, the nearest convenient fording-place being sought. Although these roads were by no means ideal, they were at least the first of their kind, and marked a distinct advance, the extent of which can be deduced from the inscription placed on an obelisk erected on the road between Inverness and Inveraray.

Had you seen these roads before they were made,
You would lift up your hands and bless General Wade.

The events of the 1745 Rebellion showed that military exigencies demanded a like improvement in England. Some idea of the means of communication then available can be gauged from the

fact that Prince Charles Edward had left Edinburgh 100 miles behind him before news that he had moved at all reached the southern counties of England. This alarm served to stir the English Government to the extent of making a new road between Newcastle and Carlisle in 1756, and in Scotland the work on the roads was resumed with still greater energy, a large proportion of the requisite funds being provided, at the suggestion of the Lord Advocate Grant of Prestongrange, out of the money derived from the estates forfeited by supporters of Prince Charles Edward under the Forfeited Estates Act of 1752.

Perhaps this activity stimulated Scottish interest in roads, for at any rate towards the end of the century a certain disposition to regard road-making with more serious attention manifested itself in Scotland. The pioneers of this movement were Lord Daer, son of the Earl of Selkirk, and a Mr Abercromby. Daer's most important contribution was that he was the first to lay out roads with the aid of a spirit-level. Abercromby constructed new roads from Kinross to Perth and from Perth to Dunkeld. Apart from Smeaton's Markham-Newark road these were really the first roads in the United Kingdom since the time of the Romans which were worthy of the name. Scientific principles were actually applied to the designing of them. Although they ran through hilly country

Abercromby avoided steep ascents as much as possible, taking advantage of the valleys wherever he could and cutting through and levelling up where this was impracticable.

In the latter part of the century the roads in Ireland were also superior to those in England. This superiority was attributed, probably with some justice, to the abolition in 1763 of the antiquated system of Statute Labour, which was still adhered to in England.

Wheeled traffic continued to develop and increase throughout this century. The stage-coach system had become well established, but there were still a great many horsemen on the roads. Judges and barristers for the most part still rode their circuits. The commoner people made use of the stage-waggons, which, if much slower than the coaches, were at any rate considerably cheaper. There was a disposition to use carts and waggons for the carriage of heavy goods, such as coal, which hitherto had always been carried as far as possible by water.

The coaches of the early eighteenth century were still lumbering affairs, showing little improvement over those of Stuart times. Their enormous weight and unwieldiness, coupled with the state of the roads, made the going very difficult and put such a strain on the horses that no animal was expected to be fit for work for more than three years. The speed

attainable was six and a half miles an hour in the most favourable possible conditions, but five miles an hour was very good going, and the average speed was usually considerably less. In 1700 the journey between York and London took a week, and that between Norwich and London often as long. It was possible to reach Salisbury or Oxford from London in two days and Exeter in five. As coach-construction improved and coaches were made lighter a greater speed became possible. In 1752 a coach starting from London on the Monday would reach Exeter on the Thursday. This meant a journey of some fifty miles in the day. But such rapidity could be expected only in summer; in winter no more than thirty miles in the day could be attained. The company which started the Manchester flying-coach in 1754 announced with pride, albeit with a touch of caution: 'However incredible it may appear, this coach will actually (barring accidents) arrive in London four days and a half after leaving Manchester.' Six years later a 'flying machine,' which from its name was presumably accounted a speedy vehicle, accomplished the journey from Sheffield to London in three days.

Scotland was rather behind England as regards regular services of public vehicles. Owing doubtless to the fact that the road was not even reasonably good, no public conveyance ran regularly between Edinburgh and Glasgow until 1749, when

STAGE-COACH AND OPPOSITION COACH IN SIGHT.

'The Edinburgh and Glasgow Caravan' was instituted. The journey occupied two days. A year later the necessity of improving the means of communication between England and Scotland dawned upon the authorities, and a Turnpike Act, the first of its kind applying to Scotland, was passed to facilitate the improvement of the high road through East Lothian. Shortly afterwards a regular stage-coach service between Edinburgh and London was instituted. A notice dated February 1754 runs as follows: 'All that are desirous to pass from Edinburgh to London or any place on their road let them repair to the White Horse Cellar in Edinburgh, at which place they may be received in a Stage Coach every Monday and Friday, which performs the whole journey in eight days (if God permits) and sets forth at five in the morning. Allowing each passenger 14 pounds weight, and all above 6 pence per pound.' The qualification 'if God permits' was very necessary, for as a matter of fact the journey rarely took less than a fortnight. For long this remained the only regular service between London and Scotland. It was not until 1788 that the first mail-coach arrived in Glasgow from London. Its advent was made the occasion of great rejoicings, and the inhabitants went forth to meet it and escort it into the city in triumph.

By 1775 a service of some four hundred coaches running regularly between most of the big towns

in England had been instituted. Each coach carried an average of eight persons inside and ten outside, so that considering that in those days travelling was never lightly undertaken, the means of communication thus provided were probably adequate to the national needs. A second use besides that of carrying passengers was eventually found for the stage-coaches. The postal system during the first three-quarters of the century had continued to be both slow and inefficient, and a certain John Palmer, Manager of the Bath and Bristol theatres, conceived the simple but brilliant notion that letters might be carried with more convenience and despatch by the stage-coaches. His scheme met with the instant and emphatic disapproval of the postal authorities, but since it secured the enthusiastic support of no less a person than William Pitt it was ultimately adopted. The new system came into being on August 8th, 1784.

In addition to the heavy coaches chiefly used for long-distance journeys lighter carriages began to appear in greater numbers on the roads in this century. Even in Queen Anne's time calashes and chaises driven by postilions had become fairly common, and by the middle of the century a large amount of lighter carriages, such as curricles, cabriolets, phaetons, and gigs were extensively used, though at first only by private owners. Two-wheeled post-chaises were first placed on the road

for public use in 1743 by John Trull, an Artillery officer.

In spite of the improved facilities, travelling in the eighteenth century was still such a complicated and hazardous business that it was usual for people to make their wills and set their affairs in order before venturing on a long journey by road. The expense was very heavy, since the number of toll-gates on turnpike roads sensibly increased the cost of travelling, and in addition to his fare the passenger was expected to bestow liberal tips on the driver and guard. Moreover, the length of time occupied over the journey assisted in augmenting incidental expenses, especially as the inns charged extortionate prices for food and lodging.

The hazards of the road were neither few nor negligible. The condition of the highways, coupled with the unwieldiness and top-heaviness of the coaches, made overturnings frequent, and it was no unusual thing for a wheel to come off and for the vehicle to be upset into the ditch. As a result of such an accident travellers might well find themselves stranded in some lonely spot miles from human habitation, nor could they always hope to be so fortunate as those who were travelling with the great engineer, Rennie, when the axle-tree of the coach broke in the midst of a desolate moor. With the help of some fellow-passengers Rennie

carried the axle to a smithy a mile or two away, and, the blacksmith being absent, himself effected the necessary repairs, so that the coach could proceed to its destination. Even if the traveller were lucky enough to escape a serious accident of this kind, he had to be prepared to put up with the discomfort of the inevitable and continual jolting produced by the lumbering of a heavy vehicle over the uneven roads.

The roads were still infested with highwaymen, cutpurses, and pickpockets, their favourite haunts being the lonely stretches of common on the main roads out of London. Particularly notorious danger-spots were Finchley Common, Epping Forest, Gadshill, Bagshot Heath, Hounslow Heath, and Wimbledon and Wandsworth Commons. Nor did the robbers confine their activities to the night-time. In 1751 Horace Walpole could write with elegant exaggeration : ' One is forced to travel even at noon as if one were going to battle.'

The most famous of all highwaymen, Dick Turpin, flourished at the beginning of this period. Born in 1706, he took to the road early and worked in partnership with another notorious scoundrel, Tom King. Many daring exploits are attributed to him, some of them erroneously, as for instance the well-known ride to York, which was really accomplished by a predecessor in villainy, one John Nevison, popularly known as ' Nicks ' or

'Swift Nick,' who after a successful robbery at Gadshill in 1676 undertook the ride to York in order to secure an alibi. His bay mare is supposed to have accomplished the distance of 190 miles in fifteen hours. It was not until 1739 that retribution overtook Dick Turpin. In that year he was convicted at York Assizes of stealing a black mare and foal and sentenced to death. With cynical sense of humour he paid five men the sum of £3, 10s. to follow behind the hangman's cart as mourners. He met his death with great courage, and so deep an impression had his career made on the popular fancy, that the mob rescued his body, which was to have been given over to a surgeon for dissection, and insisted upon it being given Christian burial.

Contemporaries of Dick Turpin's were Joseph Blake, known as 'Blueskin,' and Jack Sheppard, who rendered himself popular by achieving a series of sensational escapes from Newgate. But when he was once more taken in 1724 the authorities kept a closer guard on him and this time he did not escape. Over twenty thousand people attended to see that he was really hanged.

The most romantic figure among the highwaymen in the latter part of the century was Jerry Abershaw, who haunted the roads about Kingston and Wimbledon. His nonchalant behaviour during his trial and execution was amazing. When the judge assumed the black cap to sentence him to death he too

covered himself. While awaiting death he drew pictures of his adventures on the walls of his prison-cell with the juice of cherries. Finally he was taken forth to be hanged on Kennington Common, and went to death with a flower between his lips, laughing, chatting, and bowing to his acquaintances among the crowd.

CHAPTER V

THE AGE OF TELFORD AND MACADAM

With the dawn of the nineteenth century it became evident that almost imperceptibly the public attitude towards the road-problem had undergone a complete change. Instead of the apathy of the preceding era there were now loud demands for better roads, which became more insistent as it was more widely realized that considerable improvement actually could be achieved. The belief that this was so was stimulated by the manifest superiority of the highways in Ireland and Scotland, due to recent alterations in their respective systems of administration.

In Ireland the abolition of Statute Labour had been but the first step towards reformation. In 1798 the Irish turnpike system was revolutionized by an Act compelling each trust to appoint three directors out of its number to conduct the entire ordinary business of the trust, the main body merely retaining the ultimate financial control. Thus was removed the most flagrant defect of the whole system, the division of responsibility among so many that efficiency and despatch were almost unattainable.

The improvement of the Scottish roads may be dated from the time of the construction of Wade's military roads. Although they were originally made exclusively for strategic reasons, travelling and transport had been rendered so much easier and more convenient by them that both the Government and the public had become alive to the fact that the remainder of the roads in Scotland, where, indeed, they existed at all, were abominable, and had realized the advantages of providing a better system of communications. The experiments of Daer and Abercromby had shown what could be done in the way of adapting scientific principles to road-construction, and, moreover, in the field of administration the Scottish authorities had developed an enlightened policy. In most counties closer co-operation had been rendered possible by a new scheme which enlarged the road-authority. The power of general management was vested in the county itself, and the members of the trusts resident in each district were made responsible for the roads in their own neighbourhood. Two further reforms were instituted at the same time: an assessment on land was substituted for Statute Labour, and permanent salaried surveyors were appointed. An Act of 1803 created a body of Commissioners, with power to provide half the cost for the improvement of roads out of the public funds, provided that the other half were found by

the landowners concerned. The Commissioners promptly entrusted the construction of the new roads to Thomas Telford, to whom in 1802 had been given the task of making a general survey of Scotland for this very purpose.

Thomas Telford, the first genuine professional road-engineer and perhaps the most distinguished figure in the whole history of British roads, was born at Eskdale, in Scotland, in 1757. At first it seems to have been intended that he should follow the vocation of his father, a shepherd, who died while he was still a child ; but he was an ambitious lad, and begged to be allowed to adopt some trade that offered greater opportunities. Accordingly he was apprenticed to a stone-mason at the local town of Langholm. He speedily showed himself to be imbued with the true spirit of the mediæval craftsman, taking an immense and uncommon pride in his work. In 1780, anxious for wider experience, he went to Edinburgh and found employment on the fine buildings of the New Town, which was then in course of construction. There he remained for two years, spending his entire leisure in self-education, closely studying all the finest examples of ancient architecture he could discover in the Old Town and in the surroundings of Edinburgh, reading omnivorously, and occasionally himself writing poetry.

At the end of this time he determined to go to London. Fortune favoured him, for it happened that a laird in the neighbourhood of Eskdale, Sir James Johnstone, was anxious to send a horse down to one of his family in London, and was only too pleased to allow Telford to ride it down for him. In London he worked as a stone-mason on the new building of Somerset House. So satisfactory was his work that he was gradually promoted to positions of greater responsibility, which afforded him opportunities of displaying his own natural talents for construction and design.

In 1786 he was chosen County Surveyor for Shropshire. He had already begun to practise architecture, and while he was at Shrewsbury designed several churches and the County Gaol. But the work most congenial to him was that of advising on the improvement of roads and the repair of bridges, and his exceptional gifts in these fields led to his being called upon to construct new works of a kind where considerable engineering skill was required. He was the first engineer to make extensive use of cast-iron for bridges and aqueducts, though he did not actually erect the first iron bridge in England, that at Coalbrookdale, which was built through the efforts of John Wilkinson, an ironmaster, much scoffed at by his contemporaries for his prophetic pronouncements regarding the future uses of iron for the building of houses and

THOMAS TELFORD.

ships. Telford was not among the scoffers: on the contrary, his successful use of iron for bridges and aqueducts encouraged the belief that Wilkinson's dreams were not so fantastic after all.

Such was the man who in 1803 was placed in charge of Scottish road-improvements. During the next twenty-six years he designed and supervised the building of nearly a thousand miles of road, with numerous bridges of all sizes, the most notable being that at Dunkeld, the gateway of the Highlands. The opening up of the country had the most amazingly rapid effects on the development of industry and the improvement of communications. In 1806 there were no stage-coaches north of Perth, while by 1811 there was a regular system running between all the important towns. As a corollary to the expansion of land-communications, Telford was also employed on the improvement of harbour-works and the construction of the Caledonian Canal. During the latter part of this time he was in addition engaged on his greatest work, the Holyhead Road, and in his hours of leisure he still apparently found time to design churches. The man was indeed a genius and well merited the nicknames of 'The Colossus of Roads' and 'Pontifex Maximus,' affectionately bestowed on him by his friend, Robert Southey, the poet.

The superiority of the Scottish and Irish roads

may have induced in the English public the conviction that the roads *could* be better, but the desire that they *should* be better was prompted rather by the evident incapacity of the existing highways to accommodate the traffic, which was now yearly increasing by leaps and bounds. A complete system of public coaches running regularly all over the country had by now been established. The historian of Newark-on-Trent has recorded the facilities available to the inhabitants of that town in the year 1820. 'Seven coaches pass daily through Newark to and from London; and as it may, in a future century, become a matter of curiosity the particular enumeration perhaps will not be irrelevant.' The seven coaches mentioned by name were the Union, Rockingham, Nelson, Wellington, Highflyer, Edinburgh Mail, and Glasgow Mail. Coaches also ran every day except Sunday to Nottingham and three times a week to Lincoln and Manchester. It should, however, be remembered that Newark, being situated on the Great North Road, was perhaps exceptionally well served for a small town. Commercial traffic had also increased. The establishment of an efficient postal system had stimulated internal trade, and the expansion of trade had in its turn naturally entailed an abnormal increase in heavy traffic.

For years the Government had remained apparently impervious to the robust onslaughts of Arthur

Young and his friends, and had received with imperturbable inactivity their repeated proposals for road-reform ; but eventually the citadel was captured from within when one of Young's most ardent disciples, Sir John Sinclair, was appointed to an official position which enabled him to bring the road-problem into greater prominence. In 1806, as Chairman of the Board of Agriculture, he introduced into the House of Commons a Bill for the complete reform of Highway Administration, and although this course was found to be premature, it aroused sufficient interest to bring about the appointment of a Special Committee of the House to consider and report on the whole question. This was but the first of a long series of similar committees, which were set up at intervals throughout the next twenty-five years. Their greatest value perhaps was that they acted as a receptacle into which new ideas from outside could be poured. At first they continued to be dominated by the persistent fallacy that the use of the roads should be limited and restricted instead of encouraged and developed. Much time was still wasted in the old endless discussions concerning wheels and weights, and the tendency to drive the traffic off the roads by the introduction of hampering regulations still persisted. Almost insensibly, however, the idea that the roads themselves might be improved began to gain ground. With unexpected acumen the

Committee of 1808 announced as if they had made a new discovery : ' It is a matter to be wondered at that so great a source of national concern has hitherto been neglected.'

Sir John Sinclair adopted the original and sensible expedient of inviting opinions on the whole road-question from the general public. All communications, whether from experts or laymen, geniuses or half-wits, were given careful consideration. Fortunately among the myriads of minnows that came into his net was one right royal fish in the shape of a memorandum from one John Loudon Macadam. Like Telford, Macadam was a Scot. He had amassed a competence over in America during the War of Independence and had then returned to Scotland where, as one of the trustees of his local turnpike, he had begun to take a great interest in all matters connected with roads and their administration. When towards the end of the eighteenth century he moved to the west of England he still interested himself in his hobby, and occupied himself in going thoroughly into the question in all its varied aspects of construction, repair and maintenance, and administration. His experiences led him eventually to enunciate as a fundamental axiom that the roads should be made to suit the traffic, not the traffic to suit the roads.

Sinclair was so much impressed with Macadam's memorandum that he caused it to be condensed

and had it printed as an appendix to the report of one of the committees. It caused a sensation, and thenceforward Macadam was constantly called before the successive committees as an expert authority. To him is due the honour of having furnished the legislature with an entirely new set of principles in the matter of road-maintenance and administration, though some time had to be allowed for his ideas to sink in and become so generally accepted that they could be embodied in definite legislation.

Macadam's chief object was to destroy the prevalent hostility to increased traffic. He treated with scorn the controversy about wheels and weights, declaring that it was possible to build roads to accommodate any sort of traffic, and pointing out that in reality it was the nature of the roads rather than the nature of the traffic that was the first consideration. 'Is it not time,' he pertinently asked, 'to enquire whether the system of road-making now in use is good?'

The principles he advocated for producing effective administration were based on sound common sense. In the first place he laid it down that work should be entrusted only to men who understood their job. Surveyors instead of being ignorant and venial amateurs elected by the parishes should be salaried professional officials of a status and substance that would place them above corruption, and skilled professional labourers should supplant the

unenthusiastic loiterers provided under the Statute Labour system.

Nationalization of the roads which was much mooted about this time was strongly deprecated by Macadam on the ground that the result would probably be that the Government would utilize the roads as a source of revenue instead of looking upon their upkeep as a public service of the first importance. But while opposed to the entire suppression of local authorities and their replacement by governmental control, he urged the creation of a central authority to act solely in an advisory and monitory capacity.

The obviousness of these proposals could not disguise their novelty and it was too much to hope that they would at once be accepted in bulk. Macadam had to content himself with the knowledge that his advice was on the whole regarded with favour and that there was general acceptance of his cardinal principle that attention should be directed to the roads rather than to the traffic that used them.

In 1816 Macadam accepted the post of ' General Surveyor of the Roads ' to his local turnpike trust, that of the Bristol district. The salary of £400 a year was paltry, but this did not deter Macadam, for the Bristol turnpike was the largest concern of the kind in the country and his position afforded him ample scope for putting some of his theories

into practice. Within a few months he had remodelled the administration from top to bottom, and so conspicuous were his improvements that invitations to accept similar posts were showered upon him. Three years later he was acting as surveyor to no less than thirty-four trusts. Macadam could not complain that his talents remained wholly unrecognized ; popular enthusiasm for his work was unqualified, and official approval was gratifyingly, if inadequately, expressed when on reimbursing him for several thousand pounds of his own money, which he had laid out in the course of his experiments, the Government added a grant of £2000 as a reward for his eminent services.

Macadam's true title to fame is his work in reforming highway-administration ; but he is better known to posterity through the road-surface which bears his name, and which he advocated, although contrary to popular belief he did not invent it. In his opinion what was now required by the existing traffic was a smooth and solid surface strong enough to bear the heavy weights to which the roads were subjected. He had discovered that the material used for road-making was not so much worn away by the traffic as displaced and dispersed, owing to faulty construction. He proposed to remedy this defect by adopting a surface made of small angular stones in place of the large round stones hitherto

favoured. Their angularity was to suffice to keep them together, so that it would no longer be necessary to use clay, dirt, chalk, and other substances which, liable as they were to be affected by damp and frost, had hitherto been unsuitably employed as binding materials. So far so good: the flaw in Macadam's method was that he provided no foundation for his metalled surface, contenting himself with simply levelling the ground before it was imposed. In this respect his method was inferior to that of Telford, who attached great importance to a prepared bottom beneath the final crust.

Telford also had paid considerable attention to providing a surface that was not only smooth but durable, and to achieve his object had devised a convex surface of moderate curvature in preference to the prevalent barrel shape which he considered less capable of bearing heavy weights. He was the first road-maker to pay adequate attention to levelling the road properly and providing it with a suitable system of drainage. His methods of road-making were much more thorough than those of Macadam, and there can be no doubt that he was incomparably the better engineer of the two, even if he did not equal Macadam as an administrator. His merits appear to have suffered neglect in comparison with those of his rival solely through his misfortune in possessing a less memorable and amusing surname.

The British public considered it more blessed to macadamize than to telfordize their highways.

As a consequence of the Parliamentary Union with Ireland in 1801 a pressing necessity had arisen for better and quicker means of communication with that country. From the very first the new Irish members at Westminster, especially one of their number, Mr Parnell, afterwards Sir Henry Parnell, had raised indignant protests against the state of the road, and in 1808 their complaints were shown to be wholly justified by the confession of the Postmaster-General that the project to run a mail-coach between Shrewsbury and Holyhead had had to be abandoned owing to the dangerous state of the road.

All attempts to stir up the various turnpike trusts concerned to improve the road proved fruitless, but Parnell and his friends did not relax their efforts, and succeeded at last in having the matter brought before the Committee of 1810, which reported that it was urgent and should be dealt with immediately. Through the influence of Parnell, who had been much impressed by Telford's work in Scotland and was an enthusiastic believer in his genius for road-construction, it was decided to call him in to make a survey and report. As a result of Telford's recommendations the House of Commons in 1815 was asked to grant £20,000 for the

construction of certain stretches of new road which he deemed absolutely essential. While ten commissioners were appointed to supervise the work, in practice the administration was left in the hands of Parnell, who had been the prime mover in getting the necessary legislation passed.

The task that Telford had undertaken proved at first by no means easy, especially as he was not given a free hand, and the fact that the 194 miles of road concerned were under the care of twenty-three separate turnpike trusts made it difficult to institute any sort of comprehensive policy. However, it was not long before his tact and firmness gained him a mastery over the English trusts. The Welsh trusts proved less tractable, while immeasurably more incompetent, and finally legislation was sought and obtained to get them merged into a single trust of fifteen trustees, all of whom Telford managed to ensure should be men who were prepared to fall in with his views. The Act of Parliament by which this amalgamation was effected in addition made compulsory the appointment of a professional civil engineer as surveyor. This was in accordance with Telford's practice of insisting on having professional assistant surveyors under him for every division of the road. He also refused to have the work carried out except by skilled hired labourers.

The Holyhead Road as constructed by Telford

revealed to the public the scientific importance of road-making. Especially in the rugged mountainous country of North Wales consummate engineering skill was required to make the road safe for the traffic it would be called upon to carry. Many new bridges had to be built and extensive blasting operations were necessary to level the road down, cut off sharp angles, and so forth. On the old road some of the gradients had been as steep as one in six and a half. Telford determined that on his new road there should be no gradient steeper than one in twenty. The sensible decision was taken to put the most dangerous parts of the road in hand first.

Nothing can furnish a better idea of the enthusiasm with which Telford's work was regarded even in official circles than a quotation from the Report of the Select Committee of the House of Commons in 1819.

> 'The professional execution of the new works upon this road greatly surpasses anything of the same kind in these countries. The science which has been displayed in giving the general line of the road a proper inclination through a country whose whole surface consists of a succession of rocks, bogs, ravines, rivers, and precipices, reflects the greatest credit upon the engineer who has planned them ; but perhaps a still greater degree of professional skill has been shown in the con-

struction, or rather the building, of the road itself. The great attention which Mr Telford has bestowed to give to the surface of the road one uniform and moderately convex shape, free from the smallest inequality throughout its whole breadth ; the numerous land drains, and, when necessary, shores and tunnels of substantial masonry, with which all the water arising from springs or falling in rain is instantly carried off ; the great care with which a sufficient foundation is established for the road, and the quality, solidity, and disposition of the materials that are put upon it, are matters quite new in the system of road-making in these countries.'

This feeling of approbation had shown itself from the very start ; so favourably were Telford's initial improvements regarded that no difficulty was experienced in obtaining further grants from Parliament. Between 1815 and 1829 no less a sum than £733,502 was expended on this road, which at the end of this time was accounted the finest highway in the world. Perhaps the most striking engineering feat accomplished by Telford on the Holyhead Road was the construction of the suspension bridge across the Menai Straits. The bridge was opened to public traffic on January 30th, 1826, when the London-Holyhead coach passed over it for the first time.

The object of reconstructing the London-Shrewsbury-Holyhead Road was to facilitate communication not only with Ireland, but also with Liverpool, which was rapidly becoming one of England's chief ports, and in pursuance of the Government plan Telford reconstructed the road between Bangor and Liverpool, thus connecting up the whole system.

So immediately apparent were the advantages to be derived from the improvement of the Holyhead Road that it was urged that Telford should be commissioned to raise some of the other important trunk-roads to the same high standard. He made a complete survey of the Great North Road from London to Edinburgh, and his plans for its improvement were actually approved and recommended for adoption by a Committee of the House of Commons. But the Northern Road Bill introduced into Parliament in 1830 to give him the necessary authority was thrown out. Three reasons combined to bring about its rejection. Firstly, there was the usual and inevitable opposition by vested interests, in this instance represented by those towns which would have been placed off the map by the proposed deviations from the old route; secondly, the apprehension caused by the enormous estimated expense of the proposed improvements was responsible for a considerable number of adverse votes; and thirdly, the sudden and astonishing progress of Stephenson's experiments

with the steam-engine had engendered a belief that a new method of locomotion had been found which would entirely supersede road transport, and that therefore it would be waste of time, money, and energy to proceed with the improvement of communications that were in imminent danger of becoming obsolete.

Telford did not live to see the complete eclipse of the roads by the railways. He died in 1834 and was fittingly accorded the honour of burial in Westminster Abbey. His seventy-seven years of life had been filled with great achievement. Acknowledged in his own country as the head of his profession and chosen first President of the Institute of Civil Engineers, which he helped to found, he had also gained an international reputation in his later years when his expert advice had been eagerly sought after by foreign Governments. Russia and Austria had consulted him on road-questions, and the Swedish Government had called him in to advise on the construction of the Götha Canal.

John Macadam survived his great rival by only two years. He died in comparative poverty, for, unlike Telford, he had not reaped a financial reward in consonance with the magnitude of his services to society. His name, however, was universally honoured, and for some forty years the Macadam dynasty maintained its position at the head of road administration. James Macadam had long

ROAD-MENDING IN 1803.

been his father's assistant and in 1827 had himself been appointed Surveyor-General of Metropolitan Roads. In 1834 a knighthood was conferred on him at the request of his father, who had declined the honour for himself. When the younger Macadam died in 1852 his mantle fell upon his son, William, who held the post till his death in 1861.

Strange as it may seem, during the first three decades of the nineteenth century and even after the gigantic advances made in road-construction, the state of the roads round London remained worse than anywhere else, except in the very remotest rural districts. For all the improvement shown by these roads the names of Macadam and Telford might never have been heard in the land, although it was during this very period that the one was providing the Bristol district with first-class roads and the other was scoring his triumphs in Scotland and on the Holyhead Road. It is a matter for wonder that neither should have been summoned at least to advise on those roads that were used perhaps more than any others in the country. It should have been obvious that they needed the attention of someone skilled in the new science of road-making, being, as they were, for the most part built on clay soil and entirely undrained. The probable explanation of this neglect is that the turnpike system, which was particularly

wide-spread in the London district, from its very nature resisted the infiltration of Macadam's new theories of administration.

The gravest defect of the turnpike system at this period was that there were too many trusts and too many trustees. Some trusts were administered by a hundred or more individuals, the majority of whom possessed no sort of qualification for the job. The ignorance and incompetence of many of the trustees and the general unwieldiness of the trusts prevented any possibility of co-operation between the various authorities. No uniformity could be obtained when a main road, which, being a complete entity in itself, ought to have been controlled by a single authority, was on the contrary split up among a number of separate trusts. A conspicuous disadvantage of the multiplicity of trusts was the delay entailed by the necessity of having to pass through toll-gates every six or eight miles, if not at lesser intervals. This was a source of serious inconvenience, especially near London where the volume of traffic was considerable. One of the recommendations most insistently made by all the parliamentary committees set up to consider the road-question was that the inordinate number of trusts should be decreased by amalgamation. But such reforms were slow in coming, largely because many of the trusts, especially the smaller ones, were overridden with debt, and those which were

solvent displayed a natural reluctance to take over their liabilities. In 1826 some of the Middlesex trusts were successfully amalgamated, but this was an isolated instance and the example was not followed. An attempt to amalgamate the fifty trusts round London proved abortive, the measure to bring it about being defeated in the House of Commons by one vote.

Each trust, having been constituted by a separate Act of Parliament, required a new Act to renew its powers when they expired, and in this way a great deal of time that might have been better employed was wasted in each session. It was not till 1831 that anyone thought of obviating this difficulty by introducing a single comprehensive measure to renew all expiring trusts instead of dealing with them individually. From this time onwards a similar Act was passed annually, thus saving a great amount of time and trouble.

In regard to the remainder of the roads, those maintained by the parishes, although the Statute Labour system still lingered on, the device of presentment had by the beginning of the nineteenth century become almost the normal method of obtaining the repair of the roads. The disposition to substitute a rate for Statute Labour had now become general, and in the circumstances the readiest means of effecting the desired change appeared to be to get the parish presented and

fined. This was usually done with the consent and collusion of the parish officers and the principal inhabitants. The fact that this roundabout process was unblushingly made use of as a means of levying a rate showed that in public opinion the Statute Labour system had now grown out of date. When the more active interest in the roads manifested itself under the influence of Telford and Macadam some of the more prosperous parishes began to avail themselves of the power to appoint a salaried surveyor permitted under the General Highway Act of 1773. In such cases a marked improvement in the roads almost invariably resulted.

An experiment of some importance was extensively tried during the first quarter of the nineteenth century. This was the practice of employing the able-bodied poor on the parish roads. This combination of the burdens of road repair and poor relief rapidly commended itself, and by 1833 had become so common that the Poor Law Commissioners made a special investigation into the working of the system. The outstanding result of their enquiries was the emergence of the curious but indisputable fact that ' the able-bodied poor ' could never be induced to work. At this time work was plentiful enough for all who desired to do any, and it followed that those who sought relief, apart of course from the aged and infirm, were for the most part incorrigible idlers. The acute modern

problem of genuine lack of employment had not yet arisen. The keenest observers were, therefore, reluctantly forced to the conclusion that the system was both ineffective and unprofitable.

Although the first thirty years of the nineteenth century were marked by extraordinary advances in road-making, and in this respect form perhaps the most interesting epoch in the history of British roads, little or no corresponding advance was made in road-administration, despite the enlightened efforts of Macadam. The intervention of the legislature in questions of road-maintenance and administration between 1800 and 1830 was muddle-headed and contradictory and only served to add further complications to an already incomprehensible mass of conflicting laws.

CHAPTER VI

THE CALAMITY OF RAILWAYS

It is interesting to speculate what might have been the advances made in regard to roads during the nineteenth century had it not been for what Sir James Macadam styled 'the calamity of railways.' Through the efforts of Telford and the elder Macadam roads and the facilities for travelling had reached a higher state of perfection than at any time since the days of the Romans, and there was abundant promise of still greater improvement in all directions when suddenly the whole system of communications was completely revolutionized by the advent of railways.

The turnpike roads had just reached their zenith. There were eleven hundred trusts controlling some 22,000 miles of rapidly improving roads and receiving a considerable revenue from tolls. In spite of the fact that the railways had already begun their work the annual income of the turnpike trusts reached its highest point in 1837, when it amounted to more than £1,500,000.

Already, however, the hissing of the steam-driven monsters could be heard. From the begin-

ning of the century experiments had been made in the application of steam both to land and water carriage. Trevithick's steam locomotive of 1802 and Stephenson's first engine of 1814 gave but a faint foreshadowing of what was to come, and the crossing of the Atlantic by a steam-boat in 1819 was regarded as an almost miraculous feat which would not easily be repeated. But when the Stockton-Darlington railway was opened in 1825 it became obvious that the new means of communication must at least be considered as an alternative to road transport, and when trains carrying both goods and passengers began to run between Liverpool and Manchester in 1830 it was realized that road transport was doomed. The Great Western Railway was started by Brunel in 1833, and was followed by a network of railways, which speedily spread all over the country.

Nobody seems to have remained for long under any delusion that the roads could hope to compete with the railways. Already in 1836, when the turnpike system was still apparently prosperous, a Committee of the House of Commons boldly recommended its discontinuance. Wherever a railway was constructed the inevitable result was an immediate suppression of all long-distance traffic by road. The new method of transport was so much quicker and cheaper that the stage-coaches could not and did not even attempt to enter into competi-

tion with it but were instantly withdrawn. Considering that the year 1825 saw the first railway in England the process of eliminating the stage-coaches seems astonishingly rapid. The last stage-coach between London and Birmingham ran in 1839, the last between London and Bristol in 1843, while the London-Plymouth coach made its last journey in 1847. By 1850 travelling by rail can be said to have almost totally superseded travelling by road.

If there were many to welcome the swifter, more comfortable, and more convenient means of communication provided by the railways, there were also not a few who had good reason to lament the passing of the old order. An immense amount of money was lost by those who had invested in any undertakings connected with the roads; the turnpike trusts were ruined; stage-coach companies had to be wound up; the old coaching-inns lost the greater part of their customers at one fell swoop. The most important general result so far as the whole country as distinguished from special interests was concerned, was that all projected highway improvements were incontinently abandoned and the roads went back to very nearly the same state as they had been in before the institution of turnpikes. Almost—but not quite, for the work of Telford and Macadam had left such a mark that it could not be entirely forgotten. Here a parallel with

the Roman period can fairly be drawn. Just as the great Roman highways had been suffered to fall into decay during Saxon times, but had yet survived the ordeal and come through retaining vestiges of their ancient greatness, so Telford's magnificent roads fell into temporary disuse but survived through the era of railways to form the nucleus of the new network of highways that was made necessary by the coming of the motor car.

During the years that immediately preceded the advent of railways practically all the attention that the legislature had given to roads had been devoted to the main arteries of communication between the big towns, or in other words to that sixth of the aggregate of roads which was under the administration of the Turnpike Trusts. The remaining five-sixths were still under the old system of parochial control and little or no improvement had been effected either in their condition or in their administration. Indeed, apart from the turnpike roads the highway system during more than thirty years of the nineteenth century remained substantively the same as it had been during the days of the Stuarts. Legislation had not changed the law, neither had custom changed the practice. The time had come, however, when both law and practice were to change, for though with the institution of railways and the consequent temporary

extinction of long-distance communication by road the importance of the main roads decreased, the importance of the lesser roads sensibly increased now that they were required to link up towns and villages with the railways. There was, therefore, an immediate shifting of interest from the great turnpike highways to the roads that hitherto had been regarded as of no more than local importance.

The Victorian highway system was evolved not from the turnpike system but from the ancient system of parochial administration. It was financed not out of the proceeds of tolls but out of compulsorily levied rates which were substituted for Statute Labour. During the course of the century out of the old parochial system was slowly evolved a new system whereby the roads were administered everywhere by the local general government authority employing skilled hired labour under a salaried professional surveyor.

In 1835 the first important step was taken by the passing of a General Highway Act, which was a genuine attempt at reform, rearrangement, and codification. Practically all the existing road legislation, apart from that relating to the turnpike system, was repealed. The new law provided that the road-authority in each parish was to consist of a meeting of rate-payers, who were empowered to delegate the actual functions to a representative committee of management selected by themselves.

They were authorized to appoint a surveyor, salaried or unsalaried, with power to levy a rate. This was henceforth to be the orthodox method of raising revenue for the maintenance of the roads, and Statute Labour was formally and finally abolished. Thus the principle of employing hired labour under salaried officials was at last officially accepted.

This was certainly a step in the right direction, but where the Act failed was in making merely permissive a provision that should have been made compulsory. Little or no advantage seems to have been taken of the permission accorded for several parishes to combine into a single Highway District, paying a common surveyor, but in all other respects each preserving its own financial independence. The legislature should have recognized that it was essential rather than merely advisable to extend the area of administration and to put the control of the roads into the hands of an authority more powerful than the parish. It should have been obvious that the task of effecting the necessary organization both in the purchase of material and in the use of it and of providing adequate roads out of limited resources was entirely beyond the power of so exiguous an authority. Scarcely a parish could afford to appoint a surveyor of the kind now required, a man that is to say who would be receiving a salary sufficient to place him above corruption. The power of the rate-payers of

the parish to elect a small Highway Board from among their own number to exercise the duties of the surveyor was a poor substitute, and as a matter of fact seems to have been very little used. By according the permission to combine in Highway Districts the legislature showed that it recognized that an enlargement of the local authority was desirable, but it failed to appreciate that, in matters where local pride and independence were involved, the initiative must always come from above. Petty local authorities could scarcely be expected to recognize the public importance of any roads under their jurisdiction or to take wide and far-sighted views in regard to highway problems. Had the opportunity then been taken to enlarge the administrative unit, the turnpike roads would have been more quickly and more conveniently absorbed into the new system, and half of the nineteenth-century road-problems would have been averted.

Although the Act of 1835 had certainly improved the system of administration as regards the parish roads it had left the turnpike roads untouched. The result was that while some improvement might reasonably be expected in the secondary roads the main roads were almost bound to deteriorate, since practically all the main arteries of road communication in England, with the important exception of the main streets in cities and a few main roads in

the country controlled by local authorities, were still administered by Turnpike Trusts. And the Turnpike Trusts were ruined! Their financial administration had never at the best of times been stable, partly because of the heavy mortgages which they had always incurred to cover their initial expenditure, partly because of the persistent peculation and corruption of those through whose sticky hands the toll-revenues passed. And now, deprived of their chief source of revenue by the gigantic sudden drop in passenger traffic, they became insolvent. Attempts to mitigate the situation by a hasty amalgamation of trusts were unavailing; it was too late for such expedients. The Government was reduced to adopting the desperate remedy of reviving the responsibility of the parishes for the turnpike roads within their confines, a Common Law liability, which, though it had never been legally abrogated, had in fact long remained dormant. By an Act of 1841 the Justices in Special Sessions were empowered to order contributions from Highway Rates to be made where necessary for the repair and maintenance of turnpike roads.

That this procedure should have excited a storm of opposition is scarcely surprising. The users of the roads considered it unjust that they should be expected to put their hands into both pockets, to contribute directly to the upkeep of the roads and then in addition to have to pay toll for passing over

them. In 1842-3 the popular resentment in South Wales burst into flame in an insurrection known as the Rebecca Riots, a name supposed to be derived from the sixtieth verse of the twenty-fourth chapter of the book of Genesis : ' And they blessed Rebekah, and said unto her, Thou art our sister, be thou the mother of thousands of millions, and let thy seed possess the gate of those which hate them.' Other explanations of the origin of the name have been suggested, but none are so picturesque or so apposite.

The oppression of the turnpike trusts in this district had long been notorious. Not only were the tolls excessive, but also there had recently been a multiplication of turnpike-gates so that the roads were absolutely studded with them. It was foolish to hope that the local inhabitants would submit without a murmur to the proposal that they should provide extra money for the very purpose to which these already oppressive exactions were supposed to be devoted.

There was a decidedly romantic element in these disturbances. The whole origins were wrapped in mystery, and the instigators and leaders were never discovered. Their organization was magnificent. The swift, secret attacks were always made by night; by day all was tranquil, and bucolic innocence beamed on every face. But every night a mob armed with saws, hatchets, and other rustic weapons arose apparently from nowhere. Mounted

on horseback and lustily blowing on cow-horns, their leaders disguised in female attire, the rioters would suddenly swoop down on some toll-gate and compass its destruction, doing the work so thoroughly that they would even raze the toll-house itself to the ground.

The staff-work of the insurgents was admirable. If any particular toll-gate was receiving special protection in an endeavour to trap them, they knew it at once through their spies, and next morning would come the news that they had transferred their operations to quite a different part of the road. All attempts to repair the damage they had inflicted were sooner or later visited with condign retribution. If a gate was re-erected it was not long before it came down again. One gate was pulled down no less than five times. The local authorities were powerless to deal with the outbreak, and even the drafting of extra police from London did not materially help matters. The riots did not cease until regular troops were sent into the district to keep order.

By this time, however, the immediate object of the rising had been attained, for it was apparent that the sympathy of the country as a whole was with the insurgents, who had succeeded in stating their case convincingly, if a little vigorously. In the circumstances the Government had the good sense to act with leniency. Of the comparatively

few rioters who had been captured only three were sentenced to transportation, several more to short terms of imprisonment, while the rest were merely bound over to keep the peace.

The most important gain was that the riots had forced the Government to recognize that the old system could not be allowed to continue. Legislation was immediately introduced to dissolve all the trusts in that part of the country and to set up County Road Boards in their stead. The new boards took over the liabilities as well as the functions of the dissolved trusts, and the Government advanced a sum of £218,000 towards the payment of debts.

The administration of the new boards acting under the advice of a 'General Superintendent of County Roads in South Wales,' appointed by the Home Secretary, was so admirably conducted that in spite of the fact that most of the toll-gates were removed, and the tolls at those that remained considerably reduced, the roads soon actually began to be a paying proposition instead of an intolerable burden on the rate-payers. So successful, indeed, was the whole system that some years later the South Wales Highways Act of 1860 brought the parish roads also into it, putting them under the control of Highway Boards subordinate to the County Road Boards, in whom the all-important power of appointing and supervising surveyors was

vested. Sir George Cornwallis, the Home Secretary of the time, endeavoured to extend this practice to England also, but was not successful. In spite of all efforts the old turnpike trusts still lingered on, sinking year by year deeper into a morass of debt.

Ever since the Act of 1835 countless attempts had been made to enlarge the unit for the administration of roads, but all had been rejected through stupidity, narrow-mindedness, or prejudice. Curiously enough, when a new administrative unit did come, it came imperceptibly and almost by accident. With the growth of the towns during the wave of commercial prosperity that swept the country in the Victorian Age it became necessary to pay considerable and increasing attention to the question of Public Health. It is obvious that the condition of streets in towns is intimately bound up with this question, and accordingly it occasioned no surprise and very little attention when by the Public Health Act of 1848 and the Local Government Act of 1858 the roads in urban areas were put under the control of Local Boards of Health. It was not at once fully realized that under these Acts a new kind of road-authority was in process of creation.

The enlargement of the administrative unit in rural areas was still longer in coming. In 1862, however, a new Highways Act permitted the

Justices in Quarter Sessions to combine parishes into Highway Districts under special Highway Boards composed partly of local magistrates and partly of elected representatives of the parishes concerned. But the parishes showed themselves unwilling thus to abandon control over their own roads, and there was a general rush to constitute Local Health Boards under the Act of 1858, since such could not be included in Highway Districts under a special clause of the Act of 1862. The result was sometimes exquisitely ridiculous, as when, in order to avoid being grouped in a Highway District under the new scheme, tiny country villages solemnly set up Urban Sanitary Authorities. The Government felt obliged to block this loop-hole by an amending statute of 1863, which enacted that a minimum of three thousand inhabitants was necessary for the formation of an Urban Sanitary District.

Although a considerable number of district Highway Boards were set up under the Act of 1862 the system was not altogether popular, and in some parts of the country every effort was made to avoid the provisions of the Act, either by constituting Urban Sanitary Districts in areas where there was sufficient population, or by retaining the ancient parochial autonomy. Opinions on the subject varied in different parts of the country. All North Wales adopted the Highway District system, as did many

English counties. Yorkshire kept an open mind in the matter, having 759 parishes grouped in Highway Districts, 720 still under the old parochial system, and 183 Urban Sanitary Districts. Several counties, including Norfolk, Suffolk, Staffordshire, Buckinghamshire, and Westmorland, tenaciously clung to the ancient parochial system and refused to brook the new-fangled Highway Districts within their borders.

So long as the turnpike trusts still existed in any number it was obvious that there could be no real general improvement in the roads, but the obvious solution of suppressing them altogether at one blow was never taken, though the success of the experiments in South Wales and also in Ireland, where tolls had been entirely abolished in 1858 and where the roads were now quite adequately maintained out of rates, might have encouraged the legislature to proceed boldly to their final extinction in England as well. A Select Committee of the House of Commons, appointed in 1864 to consider the whole question, reported in favour of their abolition and the adoption of a system similar to that obtaining in South Wales. But no direct legislation to this effect was ever introduced by any Government. Just as the turnpike trusts had gradually grown up and increased, so they gradually decayed and decreased. Each year the Committee, which had

the task of deciding whether expiring trusts should be renewed, recommended the dissolution of some of them until, by a gradual process of attrition, their numbers sank to a negligible quantity. Whenever a turnpike trust was suppressed the roads concerned were handed over to the Highway Districts or Highways parishes in which they lay. The death-struggle of the Turnpike system was prolonged almost to the end of the century. In 1864, 108 toll-bars in the vicinity of London were removed. No less than 78 trusts disappeared in 1870. The remaining London tolls were abolished in the following year. In that year there were still 854 trusts in the country; from then onwards they decreased rapidly to 588 in 1875, 184 in 1881, and 71 in 1883. The 15 left in 1887 were reduced to 2 in 1890, but it was not till five years later that the extinction of the very last trust of all, that of Anglesey on the Holyhead Road, gave the turnpike system its *coup de grâce*.

There could be no sort of uniformity or efficient organization while there were so many different systems in force at the same time; it was essential that some scheme should be devised which would reconcile and combine all interests. Once again considerations of Public Health almost unintentionally afforded a partial solution to the problem.

KENNINGTON TURNPIKE-GATE.

In 1872 the Public Health Act transferred the jurisdiction over the roads from the Home Office to the Local Government Board. The Urban Sanitary Authorities were already managing their own roads under the Act of 1858, and it now seemed inevitable that this system would be extended to embrace the rural roads as well. The principle that the local Sanitary Authorities should control the roads in rural districts was definitely embodied in the Highways and Locomotives Act of 1878, the first piece of road legislation passed after the Local Government Board took over the roads from the Home Office.

By this Act it was arranged that when Highway Districts were formed or altered they should be made to coincide in area as far as possible with the Rural Sanitary Districts, and that when they did actually so coincide the Highway Board should be suppressed and its functions transferred to the Rural Sanitary Authority. Perhaps the most important effect of this provision was that it enlarged the administrative unit in many instances; since the financial independence which the parishes had still enjoyed when included in a Highway District was abolished when they were taken into a Sanitary District, the expenses of road-administration being merged with those of other sanitary services and provided for out of a common rate.

The roads which had recently been released from

turnpike trusts were also dealt with by this Act. Hitherto the enormous financial burden which had been thrown on the Highway Districts and Highway Parishes by the gradual extinction of the turnpike trusts had been relieved by means of Grants in Aid from the Government, but the Highways and Locomotives Act provided that half the cost of maintaining recently disturnpiked roads should be borne out of county funds. Ten years later the principle thus adumbrated was further extended when the Local Government Act transferred the whole responsibility for the maintenance of main roads to the County Councils.

Unfortunately the provisions of the Highways and Locomotives Act in regard to secondary roads had been merely permissive, and the parishes still set up a stubborn resistance to all efforts to bring them within the new system. As late as 1894 there were still 357 Highway Boards independent of the Rural Sanitary Authorities, and over 5000 parishes still remained autonomous in regard to their roads. But the conspicuous success of the new system forbade the continuance of such anomalies, and it was speedily resolved to make the system uniform all over the country. The Local Government Act of 1894 finally abolished all remaining Highway Districts and Highway Parishes, and directed that their functions should be transferred to the local Sanitary Authorities. Owing to the overlapping of areas the

process of conversion took some time to effect, and in many districts postponements were necessary until boundaries could be satisfactorily adjusted. But before the end of the century the requisite uniformity had been attained. In the country the main roads were to be administered by the County Council, the secondary roads by the Rural District Council. The Town Council was to be the competent authority in urban areas. In all cases the work was to be supervised by a salaried surveyor and executed by hired skilled labour, the cost being borne out of rates increased when necessary by special subsidies.

Thus during the course of the nineteenth century a complete revolution in the Highway system had gradually and almost imperceptibly taken place. The two pillars of the ancient system, Statute Labour and the Turnpike trusts, had disappeared, and instead had been evolved an entirely new system of administration by local authorities, which with certain modifications is still in force at the present time.

All that has survived of the ancient system is the immemorial conception of the King's Highway, the indefeasible right of His Majesty and his lieges to free passage. That right has, however, always consisted merely in passing and repassing along the highway, and not in *being* on it. There is no right

to loiter on it or to use it as a place of public meeting. The actual soil is still vested in the Lord of the Manor or in the owners of the adjacent land, and the public is expected to confine itself to a reasonable and justifiable use of its right of passage. It is somewhat alarming to consider that in theory at least, if not always in practice, any act that may be lawful elsewhere may not be lawful on the highway. It was decided, for instance, in the case Dovaston *v.* Payne that cattle may not depasture there. They may be driven along it, but they may not linger. Three other important leading cases may serve further to elucidate the position. In the case of Rex *v.* Pratt (1855) one Pratt was on a public road with his dog and gun. The land adjacent on both sides of the highway belonged to George Bowyer, Lord of the Manor. The dog at the bidding of his master entered a covert, whereupon a pheasant flew out. Pratt fired at it and missed it. Two justices convicted him of 'committing a trespass, by being, in the daytime, on land in the occupation of Bowyer in search of game.' Pratt appealed, but the Court unanimously held that he had committed a trespass in that the road was land in the occupation of Bowyer, subject to the right of way in the public, and that there was evidence that Pratt was not on the road in exercise of his right of way, but for another purpose, namely in search of game, which, as one of the

counsel remarked with ripe wisdom, never nourished game at all.

Still more entertaining is the case of Harrison *v.* the Duke of Rutland (1893). It happened that the ducal grouse-moor was crossed by a highway. Harrison, who apparently had some grudge against the duke, proceeded to the highway on the occasion of a grouse-drive with the deliberate intention of doing his best to interfere with His Grace's enjoyment of the sport, which he did by waving his pocket-handkerchief and opening and shutting his umbrella at the oncoming grouse in an endeavour to divert their flight from the butts occupied by the expectant nobleman and his party. The irate duke caused him to be forcibly held down by keepers until the drive was over, and Harrison brought an action for assault. The duke's defence that he was acting within his rights because Harrison had become a trespasser by abusing his undoubted privilege of passing along the highway was accepted by the Court.

In the still more recent case of Hickman *v.* Maisey (1900) the plaintiff's land in Wiltshire was crossed by a highway, whence could be obtained a view of some land which he had let to a trainer for the training and trial of race-horses. Along a strip of this highway about 15½ yards in length Maisey, the proprietor of a racing journal interested in form, as he described himself, or, as Lord Justice

A. L. Smith less kindly described him, a racing tout, walked to and fro for an hour and a half watching and taking notes of the trial of race-horses. On Hickman's bringing an action against him it was held that Maisey had exceeded the ordinary and reasonable use of a highway as such to which the public are entitled.

From the foregoing cases it would appear that the range of offences which it is possible to commit on the highway is practically unlimited. It is, in fact, more than likely that a picnic by the road-side would constitute a ground for an action for trespass, especially when accompanied, as it now-adays almost always is, by the scattering of rubbish in the form of paper, cardboard, and empty bottles. Since one must eat to live, it might indeed be possible to maintain that to halt occasionally for refreshment is not in human beings, as it un-doubtedly is in cattle (cf. Dovaston *v.* Payne *supra*), a transgression of the conditions of the right of way, but surely the law would never accept a claim that this right included that of wantonly disfiguring the country-side with disagreeable and disgusting litter. Here is a chance for some public-spirited Lord of the Manor. It is possible that a series of prosecutions judiciously instituted on a fairly spec-tacular scale against those inconsiderate Philistines who abuse their right of passing along the King's Highway might help to check one of the most

deplorable traits in the public manners of modern times.

In the case of the greater part of the existing roads all over the country the ownership of the soil on which the road is built is still presumably vested in the owners of the adjacent land. If the land on either side belongs to different owners the right of each extends 'usque ad medium filum'—to the centre of the road. The actual soil is, of course, quite unprofitable, but the cases quoted go to show that the owners of the soil still possess certain reserved rights, which may conceivably be affected in a variety of ways, and that they can obtain a remedy at law against transgressors. The position is slightly different as regards new roads. Here the local road-authority becomes the actual owner of the road, since when a new road is built it is usual for the competent authority to buy the necessary land outright with a strip on either side, in case further development should become advisable. The actual owners of the new arterial roads are the County Councils. The roads do not even now belong to the nation, whose interest in them is still in 1927 confined to the right of passing and repassing in accordance with the ancient conception of the King's Highway.

CHAPTER VII

THE COMING OF THE MOTOR CAR

THROUGHOUT the reign of Queen Victoria or at any rate until its closing years the comparatively small amount of traffic that used the highways had consisted almost exclusively in horse-drawn vehicles. The long-distance pedestrian wayfarers of the Middle Ages had long ago disappeared, as had the great droves of cattle, sheep, geese, and turkeys. With swifter communications the task of provisioning large towns had in one respect at least become easier, for it was now possible to slaughter animals before transporting them without the risk of the carcasses turning bad on the journey. It is obviously easier to transport ten dead turkeys than one live one. Therefore, instead of being driven alive along the roads they were now carried dead by rail. Horsemen too had vanished; nobody thought any longer of riding on a long journey when it was possible to travel far more quickly by rail. Pack-horse trains were still to be seen in the remoter districts of the West Country up to about the middle of the century, but they too were eventually ousted when the railways began to extend opera-

tions and build branch-lines. Little by little the railways absorbed all the long-distance traffic until the roads were abandoned entirely except by local carriages, carts, and waggons.

In these circumstances it is not surprising that practically all the attention given to roads by the legislature during the era of railways was confined to the question of fixing the responsibility for their maintenance. No one thought of improving the roads themselves, since there was so little to improve them for. Only in towns, where there was always inevitably a fairly considerable amount of traffic, was any attention given to improving the road-surface. Wood-paving for streets was introduced about 1840, and a little later asphalt was extensively used in urban districts. On country roads since the disappearance of the stage-coach and other heavy passenger-vehicles the smooth solid surface postulated by Telford and Macadam had been rightly enough abandoned in favour of a yielding gravelly surface that would afford a firm foothold to the horse in all sorts of weather; but this kind of road was particularly subject to injury by the elements, and consequently needed frequent repair, which it did not get. The roads were shamefully neglected until the development of mechanical transport suddenly stimulated a new interest in their condition.

Curiously enough the bicycle played no part in

procuring an improvement in the roads. Although the first primitive forms of bicycle had already appeared towards the end of the eighteenth century and improvements had been introduced at intervals ever since, it was not until the late 'eighties' that the users of bicycles began to constitute a proportion of the traffic worthy of consideration. But the consideration they deserved was not meted out to them: the surface of the roads was not made any more convenient for their rubber tires, nor were they able to bring any influence to bear in improving the condition or administration of the highways. This lamentable neglect is by Mr and Mrs Sidney Webb characteristically but with some justice attributed to the fact that those who rode bicycles were either young or poor or both. The elderly and well-to-do who controlled the management of the roads were for the most part carriage-folk and heartily despised the riders of the iron steed. The sum total of the bicyclist's achievements was that in 1888 he managed to get himself recognized as a carriage.

It scarcely comes within the purview of this work to make a detailed survey of the development of mechanical transport from its very origins, for its connection with roads begins only when it had advanced to such an extent as to influence road policy. It will be sufficient, therefore, merely to mention what may be called the first motor car,

the Frenchman Cugnot's steam-carriage of 1769. Trevithick's steam-cars first made their appearance on the English roads in 1801 and were followed during the next quarter of a century by those of other ingenious inventors, amongst whom was Hancock, who in 1832 achieved the feat of running a steam-coach from London to Brighton. Countless were the varieties of shape and design assumed by these vehicles. Often enough a diminutive locomotive was simply attached as a tractor to one of the elegant landaus or barouches of the period. In other cases the engine was incorporated in the vehicle itself, so that the new steam-coaches resembled the old stage-coaches with the addition of a funnel and the subtraction of the horses. Several road-transport companies were started to exploit steam-driven vehicles, but none of them proved more than moderately or temporarily successful; for the further development of this promising means of locomotion was impeded almost to the point of suppression by a variety of causes, notably by the prohibitive tolls exacted for such vehicles by the turnpike trusts and even more by the exclusive and single-hearted faith which the public put in railways.

The traction-engine, as opposed to steam-driven passenger-vehicles, was rather more favourably viewed, and was protected from excessive tolls by an Act of 1862. But this concession was almost

counterbalanced by the provision of an Act of 1865, which insisted that all mechanical vehicles should be preceded by a man waving a red flag, a restriction which with the passing of years and the amazing evolution of mechanical transport became increasingly ludicrous.

The earlier experiments in the construction of horseless carriages had all depended on steam as the motive power, but the invention of the light internal combustion engine, which was the crowning point of the series of experiments in which Drs Otto and Daimler were engaged in Germany during the 'seventies,' rendered possible motor cars impelled by petrol-driven engines. It was in France that this German invention was most eagerly exploited and most successfully developed, and the first motor cars introduced into England were all of French origin. At first these vehicles had to be preceded by the herald imposed by the Act of 1865, but this absurdity was repealed in 1896. The occasion was celebrated by an 'emancipation run' of motor vehicles. The course was from London to Brighton, but many fell by the wayside and only a few of the pioneers actually arrived at their destination. This historic year of 1896 was also remarkable for the appearance of Lanchester's first British-built petrol-driven motor car. The subsequent history of the motor car is too recent and too well known to need enlarging upon.

STEAM-COACHES.

The Coming of the Motor Car

The coming of motor cars was greeted with much the same opposition and obstruction as over two hundred years ago had greeted the coming of heavy horse-drawn vehicles. The opposition was just as justifiable and just as near-sighted. There can be no doubt that in the existing circumstances motor cars did at first create serious inconvenience and danger. Neither the roads nor public opinion were ready for them. The speed at which they travelled, though it would nowadays be deemed laughable, did then constitute a serious menace; horses and pedestrians unaccustomed to these petrol-breathing monsters were frightened out of their wits by them and accidents were frequent.

Motor cars speedily showed up all the defects in the roads, their narrowness, their windings, the steepness of their gradients, and above all the unsuitability of their surface. The new traffic cut the roads to pieces; in dry weather dust, in wet weather mud did extensive damage to property bordering the highways. It was clear that this state of affairs could not be allowed to continue for long. Once more the old question as to whether the roads were to be made to suit the traffic or the traffic to suit the roads was revived, but with a new intensity. This time the answer was not for a moment in doubt; the motor car had very obviously come to stay. But even when this salient fact had been admitted grave problems remained for settle-

ment. What, for instance, were to be the privileges and the liabilities of these new users of the road? Again, how was the standard of road-administration and maintenance to be raised to accommodate the new traffic, and how was the enormous additional expenditure that would clearly be necessary to be apportioned?

The first of these problems was, at any rate for the time being, adequately solved by the Motor Car Act of 1903. Motor cars and their drivers were to be registered and licensed. Cars were to carry identification numbers in a conspicuous position fore and aft, were to be provided with lights at night, and were to carry some sort of alarm to convey warning of their approach. The limit of speed on the open road was fixed at twenty miles an hour, with lower limits wherever for any reason it might be deemed necessary by the competent authority.

The second problem was, at the instigation of the 'Roads Improvement Association,' investigated by a Departmental Committee presided over by the Parliamentary Secretary to the Local Government Board in 1902-3. The results of the Committee's enquiries were exceedingly illuminating. It appeared that the administration of roads in England was still split up among nearly 1900 separate local authorities, County, Urban, and Rural, each entirely independent of the others. There was no sort of

central control, nor did there exist any kind of machinery whereby concerted action could be obtained if any local authority should be so far-sighted as to desire such. This meant that no notice was or in the existing circumstances could be taken of the comparative importance of highways. Roads that should have been considered and dealt with as national arteries were administered in exactly the same way as unimportant byways. Thus for example the main road from London to Carlisle, instead of being considered a complete entity in itself, was split up into seventy-two separate parts of varying size, each administered by a different and independent authority. Every one of these separate sections might—or might not—come up to the standard required of a main artery, but the road could never be considered as an integral whole, since there existed no authority competent to take a general view and lay down a comprehensive policy concerning it. The most diverse policies could be pursued with impunity by the authorities concerned while there was no control or supervision from above, and no Government department had any direct responsibility even for the most important of main roads.

Although the Committee did not recommend any really effective change in policy, it did at least make certain suggestions which, if adopted in bulk, would have brought forth a modicum of improvement. It

was proposed that the roads should be classified anew and divided into those of national and those of merely local importance. The national interest in the more important highways was to be recognized by the institution of a system of Grants in Aid to be made by the Exchequer to the County Councils. The administrative unit was to be enlarged by the setting up of County Road Boards, which were to have control of all the roads within the geographical county. This showed that the necessity of enlarging the administrative unit had been only partially appreciated by the Committee. Although the plan would have been beneficial in so far as it would have lessened considerably the number of local authorities, even now it contained no machinery for further co-operation. The reluctance to create such machinery was probably due to the fundamental and undoubtedly valuable British prejudice against centralization; but it would surely have been possible while retaining the local government system to devise some scheme that would have permitted of consultation, discussion, and co-operation between the local authorities when questions of more than local interest were concerned.

Inadequate as were the reforms advocated by this Committee, their adoption would have brought about a considerable advance in road-administration. But though the Committee could bark, the Govern-

ment would not bite. No legislation to reorganize road-administration was even introduced into Parliament. Permanent officialdom was equally apathetic; the Local Government Board shirked even such responsibilities as it had, and showed little disposition to take such interest in road-administration as it could have done by collecting information on the subject with a view to eventual improvements. It contented itself simply with acting the part of an indolent fairy godmother by distributing the funds granted in aid of the maintenance of the main roads.

Such improvement as took place during the next few years was chiefly organic, being due to the increased sense of responsibility displayed by the road authorities themselves. There can be no doubt that from the moment when the County Councils took over the main roads even before the coming of motor cars there was a steady advance in the standard of maintenance and administration. Much was also attained by unofficial enterprise. To the 'Roads Improvement Association,' for instance, was due the series of experiments with tar which at first mitigated and eventually removed the curse of dust from English highways.

The wider aspects of road-administration were at last transferred from the local to the national sphere by the force of practical considerations. The

adoption of a higher standard of road-maintenance had involved much greater expenditure, and in consequence an overwhelming increase in the rate, and it was felt that the new users of the roads for whose benefit the improvements had become necessary ought to bear their fair share of the increased cost. It would scarcely have been practicable to levy a local tax on motor car traffic, and the tax therefore had to be national. In 1909 the licence duties on motor cars were increased and a petrol tax was imposed. The revenue thus obtained was allocated to a new Road Board.

The power of the Road Board was strictly limited to the institution of new and specific improvements. It could provide for the construction of new roads and it could subsidize the widening, levelling, or straightening of the existing roads, or furnish them with the new surface demanded by modern traffic conditions. Grants or loans might be made to local authorities for any of these purposes, but not to aid in the ordinary maintenance, however onerous this burden might have become. The necessary consequence of these limitations was that while a marked improvement was brought about in the main roads, there was no corresponding improvement in the secondary roads where the burden of maintenance still rested wholly on the Rural District Councils. Thus although the principle that traffic must pay its part towards the improve-

ment of the highways had again been revived, a large proportion of the ordinary expenditure had still to be borne by the rates.

The cost of ordinary maintenance and repair soon began to increase so rapidly that a tendency to demand that the resources of the Road Fund should be made available for these purposes as well gradually manifested itself. For long this concession was refused, but at last the Roads Act of 1920 authorized definite grants for maintenance under a road classification scheme. As a result maintenance grants amounting to nearly £10,000,000 a year have since been made in respect of important main roads. This distinction not unnaturally produced a strong sense of dissatisfaction among rural road-authorities which had to bear out of their own resources without subsidy the burden of new traffic on unclassified roads under their control. In 1925 the Rural District Councils Association formulated certain demands, the substance of which was that 20 per cent. of the annual expenditure on rural roads ought to be provided out of the Road Fund, and that this charge ought to take precedence even over the construction of new arterial roads. While there was much to be said for this point of view, since it could scarcely be denied that the least help was being given where it was most needed, certain qualifications ought to be made. In the first place the increase in road expenditure, though enormous,

is not abnormal but commensurate with the increase in the expenditure on other public services, such as Poor Law, Education, and Police ; there is really no more hardship in the department of roads than in any other. Secondly, it is doubtful whether the plea on which the Rural District Councils Association chiefly based their demands is quite accurate. They submitted that no local benefit had accrued to make up for the increased expenditure due to the use of the roads by the new traffic. But it is surely arguable that the time and money saved through increased efficiency and cheapness of transport produced by motor traffic have materially benefited agricultural areas. However this may be, certain concessions have recently been made, and Grants in Aid of ordinary maintenance have since been made to rural authorities. In 1926 £1,400,000 was granted to help with the maintenance of unclassified roads in rural areas. This relieved the authorities concerned of about half of their burden.

The history of the Road Fund is amazing. The total revenue rose from £867,493 in 1911 to £18,451,213 in 1926. So unexpectedly great were the sums raised by the taxation of motor users that only a proportion was actually expended each year on the roads while the surplus was invested. This investment fund, which had amounted to over £18,000,000, was 'raided' by the Chancellor of the Exchequer in 1926, when £7,000,000 was

appropriated to public revenue. In 1927 a second 'raid' was made, and this time £12,000,000 of the Road Fund reserve was taken. There was, of course, an almost unanimous outcry from the various organizations directly interested in roads and road-transport. They argued that the Road Fund had been brought into being for specific purposes, that motorists had consented to be taxed only on the strict understanding that the money should be employed on the upkeep and improvement of the roads, and that a ministerial pledge to that effect had been given. They declared, moreover, that the money could not be spared, because the needs of local authorities were still very far from being satisfied, and that the so-called balance was illusory in that it was earmarked for definite improvements already decided upon. These improvements, they asserted, would now inevitably be delayed, while any further schemes would have to be abandoned.

On the other hand, the Chancellor of the Exchequer, Mr Winston Churchill, made out a very good case for the seizure. He pointed out that exceptional cases demanded exceptional remedies, that the country urgently needed the money, and that it had got to be raised somehow, if not by this means, by some other, such as an increase in the income tax, which could scarcely fail to have a deleterious effect on trade, and would hit a class of

taxpayers less able to sustain the burden. The Road Fund, he declared, could afford to supply the money without hardship; it could scarcely be claimed that it really needed the backing of its reserves while the yearly income, which had always proved more than sufficient for all the work that it was practicable to undertake, showed no sign of decreasing, but would inevitably grow larger year by year. He was prepared to guarantee that the Exchequer would finance everything to which the Road Fund stood committed,[1] and that each year in the future larger sums would be made available for the improvement of the roads. But he maintained that such expenditure must be kept within reasonable bounds, for it could scarcely benefit the country in the long run to make disproportionate advances in this one department alone. 'To starve education,' he said, 'to have a Navy no longer maintaining equality with the next strongest Navy in the world; to have pinching, grinding economy enforced in every direction, and yet to have one fund and one activity marching forward, expending money galore to the utmost limit, until the whole country was covered with perfect rapid-racing

[1] At the close of the debate on Clause 46 of the Finance Bill (the Clause providing for the transfer of the balance of the Road Fund to the Exchequer), the Government accepted Sir H. Cautley's amendment providing that all commitments of the Road Fund outstanding on March 31st, 1927, should be met *otherwise* than out of the future annual revenue of the Fund (July 5th, 1927).

tracks, would be entirely contrary to what a sober view of the national interests required.'

It is extremely probable, in spite of quite sincere assurances to the contrary on the part of the Government, that these raids on the Road Fund will eventually be followed by its abolition and the absorption into the Exchequer of the whole proceeds of motor taxation. Dealing with a phrase regarding the 'consent' of motorists to be taxed that had been used during the course of the debate on the Road Fund, Mr Churchill made it perfectly and ominously clear that he did not think that it was at all necessary to ask the motorists' consent. They, no more than any other body of taxpayers, possessed a right to dictate to the legislature on such matters or to attempt to earmark their contributions for any particular purpose. When the pledge was given that the money raised would be devoted exclusively to the roads the yield on motor taxation was infinitesimal in comparison with its present proportions, and it was not foreseen that such a huge sum of money would ever be involved. The annual yield on motor taxation may not be more than will eventually be needed for the roads, but it certainly exceeds what can practicably be spent in the year. If, therefore, the whole is diverted into the common fund of the Exchequer, it will still be possible to provide all that will be needed annually for the roads, and to employ the surplus for other pressing

purposes. No Government can ever afford to neglect the roads, but there are other public services that are equally essential to the nation's general welfare and cannot be allowed to suffer in comparison. Expenditure in every department must be kept in proper proportion.

Once again the roads and the bridges have become inadequate to the needs of the traffic. It cannot, however, be said that the full extent of the problem is not apprehended, even though opinions may differ on the adequacy of the means adopted to cope with it. It would be invidious to make serious complaint on this score, for it should be acknowledged that while the road-problem, as History shows, has never been negligible, it is only during the last few years that it has assumed such gigantic proportions, which, moreover, are still rapidly increasing. It would be almost impossible to evolve a definite, consistent, and immutable policy at this stage. It is, perhaps, better that the authorities should keep an open mind and refuse to bind themselves irrevocably to a line of policy which may well be stultified within a few years by unforeseen developments. The future may be in the air in more senses than one ! The wisest course is to proceed slowly and as far as possible by trial and experiment, even at the risk of incurring criticisms on the score of muddling or dilatoriness.

The Government has shown common sense in not attempting to force a ready-made Road Traffic Bill on the country. Instead, it has drawn up a draft Bill and has announced itself ready and anxious to accept criticisms and constructive suggestions. It has indicated some of the chief problems that have to be faced, and has tentatively suggested solutions upon which it is emphatic that it does not intend to insist. It points out that the law relating to road vehicles is hopelessly out of date and needs amending in many particulars.

Firstly, there must be new provisions for the regulation of public-service vehicles ; the existing law having been enacted to deal solely with horse-drawn vehicles scarcely touches the rapidly increasing hordes of motor omnibuses and chars-a-bancs. Amongst other things compulsory insurance by owners of public-service vehicles against third-party risks is advocated.

Secondly, the regulations governing the lighting of all types of vehicle must be revised, since the discrepancies in this matter have proved a very frequent source of accidents.

Thirdly, the law regarding the speed limit must obviously be altered. Conditions have changed considerably since twenty miles an hour was regarded as the highest speed attainable with safety on the open road. Nothing perhaps can demonstrate more clearly the rise that has taken place in

the average speed of motor vehicles than a comparison between the highest speeds attained when motors were in their infancy and at the present day. The greatest speed in 1901 was 62½ miles an hour achieved by a Serpollet car at Nice: in 1927 Major H. O. D. Segrave reached a speed of over 203 miles an hour in a 1000 horse-power Sunbeam. It is incontrovertible that a higher average speed than has hitherto been permitted by law is both practicable and safe. In the projected Road Traffic Bill three alternatives have been suggested. The first is that the speed limit should be abolished altogether, but that there should be severe penalties for careless and dangerous driving. The other two alternatives favour the retention of a speed limit, but in the one case it is proposed to impose penalties for all infractions of it, and in the other to impose a penalty only when in the opinion of the competent tribunal the speed seems excessive in the circumstances. Whatever scheme is ultimately adopted it is proposed to fix definite maximum speed limits, in no case to exceed twenty miles an hour, for the heavier types of vehicle.

Fourthly, it is suggested that there should be some sort of control over the issue of licences, so that they can be obtained only by those who are fit to drive. In the opinion of cynics, if this principle were rigidly acted upon, the roads would be practically cleared of motor traffic.

Many other grave problems beside those dealt with in the proposed Road Traffic Bill urgently demand attention. Of these one of the most difficult is that relating to the increasing congestion of traffic in large towns. Much has already been done to lessen it by the adoption of a system of one-way streets and gyratory traffic. The authorities are wisely keeping an open mind on this point, and their attempts to deal with it are still in the experimental stage. Part of the congestion is undoubtedly due to stationary traffic, and this too forms a thorny problem for which no satisfactory solution has yet been found.

The enormous amount of road accidents is also alarming. Much can of course be done to lessen them by rendering the roads safer through the elimination of dangerous corners and the provision in towns of approved crossing-places for pedestrians, and by the imposition of extremely severe penalties on dangerous and careless driving ; but the responsibility ultimately rests on the public itself, and only sound common sense on the part of both drivers and pedestrians can provide the remedy. In this connection the slogan ' Safety First ' cannot be too often or too emphatically repeated.

The situation caused by the conflicting interests of roads and railways constitutes a really serious menace. The railways are now in much the same position as were the turnpike trusts when the

'Calamity of Railways' came upon them. There are bitter complaints from the railways that they are being subjected to unfair road competition and that much of the heavy traffic which used to go by rail now goes by road. The chief grievance of the railway companies is that they themselves are being forced to assist in their own ruin, since they are big rate-payers and are therefore obliged to contribute extensively to the funds out of which the roads are maintained. Against their own interests they are helping to lessen the cost of road transport so that it will compare favourably with the freights which their own heavy expenses compel them to charge. There is a great deal of justice in this plea. But the problem, if difficult, is surely not insoluble. The dangerous rivalry between the two interests will cease when it is realized that the traffic problem is an indivisible whole and must be considered as such. The two industries will have to work together instead of attempting to cut each other's throat. At this stage it is impossible to do more than faintly foreshadow the solution that may be found in the event. At the moment it superficially appears that all the jam is in the possession of the roads, while the railways have only the Gregory powder. But in reality the railways possess one supreme advantage. As traffic increases space will have to be found for it, and that space can be provided by the railways with profit both to the

community and to themselves. For instance, it would doubtless be possible to convert unprofitable branch-lines into road-tracks. In regard to long-distance traffic an equitable working arrangement will have to be arrived at. After a certain stage has been reached it will be manifestly impossible for the roads to carry more than a due proportion of the heavy traffic, and the railways will then once again receive their fair share. Indeed, it is not impossible that the railways themselves will take to a species of road transport, especially in regard to the heavier types of goods, and will see fit to convert portions of their permanent way into motor-tracks either instead of or alongside of the rails. These, of course, are no more than speculations; the eventual solution may be of an entirely different nature. But that a just and profitable solution will be reached is beyond doubt; the situation is by no means so hopeless as the railwaymen paint it in their despondency.

Once again the fact has to be faced that the roads must be made to suit the traffic and not the traffic to suit the roads. Whilst the types of vehicle for which the roads are already suitable should, of course, be encouraged as much as possible, care should be taken not to interfere with or retard the further development of mechanical transport by vexatious restrictions. Certain temporary restric-

tions as to size and weight may from time to time be expedient, whenever the roads have not yet been satisfactorily adapted to bear the burden of new heavy traffic, but history has repeatedly shown that limitations imposed upon traffic in this manner are not in the long run practicable and can never be permanently sustained. In this connection Macadam's sage dictum that roads can be made to accommodate any sort of traffic should not be forgotten. As far as possible the automobile movement should be allowed to expand progressively in unison with the development of the highways.

The figures showing the growth of motor traffic during the last fifteen years indicate how futile it would be to attempt to place further restrictions of any kind on future development.

	Cars.	Commercial Vehicles.	Hackney Vehicles.
1911 . .	47,000	25,000	28,918
1926 . .	676,207	248,367	99,077

During the same period there has been a sensible increase in the mileage of British roads.

1911 . .	175,487
1926 . .	178,361

The most amazing increase, however, is in the item of expenditure on roads. Quite apart from the activities of the Road Fund, which, as has been

seen, rose from £867,493 in 1911 to £18,451,213 in 1926, the expenditure of local authorities out of current revenue and loans has increased from £18,642,331 in 1911 to £55,632,521 in 1925. In addition, every year a large sum has been directly disbursed by the Exchequer for road construction and repair as a means of relieving unemployment. Starting with the sum of £1,220,000 in 1920 this item steadily rose to £2,500,000 in 1926. These staggering figures reveal how vast must be the change that is now taking place in the whole system of highways.

Considerable progress has already been made with the construction of new arterial roads, notably the Great West Road and the new Dover Road, and with the reconstruction and improvement of such of the existing main roads as can be satisfactorily adapted to modern requirements. A very farsighted policy has been adopted in already providing for and laying out roads in connection with forthcoming town-planning schemes.

The new arterial roads constructed during the course of the last few years may probably be taken as examples of the sort of roads that may be expected in the future. The main points in which they will differ from the roads of the past are their increased width, their comparative straightness, and the smoothness of their surface. They are designed so that repairs will rarely be necessary, one of the

most frequent reasons for taking up the roads in the past being removed by laying all pipes alongside of instead of under the road. A further modification will probably have to be introduced in the near future to cope with the problem of stationary traffic. It will be impossible to allow vehicles to stand in the road itself. Parking places will have to be provided at regular intervals, and it may also be expedient to construct frequent 'bays,' where public vehicles can halt to take up or set down passengers.

It is gratifying to note that there is an increasing tendency to pay some attention to the appearance as well as to the usefulness of the new roads, which so far have singularly failed to provide any æsthetic appeal. Yet there is no reason why the new roads should have to be disagreeable to the eye just because they are mainly intended for use rather than ornament. Ugliness is always avoidable except in living creatures. The trees that are now being planted alongside the roads will undoubtedly help to mitigate their hideous monotony, and it is to be hoped that the reiterated suggestions in the House of Commons that experiments may be made with the planting of fruit-trees will be sympathetically viewed by the authorities. Not only would they add to the beauty of the roads, especially in blossom-time, but they might also be made to yield some small revenue. It is pleasant also to record that

consultations are being held with a view to improving the design of the countless petrol-stations which at present form one of the chief disfigurements of the highways.

In addition to the construction of new roads much work still remains to be done on the existing secondary roads to bring them up to the required standard. They have to be widened in many places; the surface has to be strengthened in order to enable it to withstand the weight of heavy vehicles ; blind corners, a fruitful source of accidents, have to be eliminated ; bridges have to be widened if not entirely rebuilt ; level crossings over railways have to be removed.

The system of administration and maintenance of the highways has not yet been altered and improved to harmonize with their rapid development under the exigencies of mechanical transport. One of the most urgent necessities of the immediate future is a reclassification of the roads and a newer and fairer method of apportioning the cost of maintenance. Since roads can no longer be considered purely and exclusively of local interest anywhere there will inevitably be a necessity for increased Parliamentary control over expenditure. It is obvious that the development of road transport has once more made the area of local administration too small. But here is one of the problems now facing the legislator. *Incidis in Scyllam, cupiens vitare Charybdim.* In

seeking to avoid the whirlpool of decentralization you may split on the rock of nationalization. With care it might be possible to steer a middle course. Co-operation rather than fusion should be the aim. While preserving the principle of local government, which has always been jealously guarded by Britons, it should be possible to form joint committees of adjoining authorities and to invest them with certain executive powers, so that road improvements can be carried out with an equitable distribution of the financial burden agreed upon by the accredited representatives of the various authorities concerned. The want of such machinery at present constitutes a bar to progress. The ideal system would be one consisting of larger local authorities possessing, to take an analogy from the roads themselves, quicker and easier communications one with another, while above all the central authority remained always ready to act as a monitor, an adviser, and a supreme court of appeal.

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